



# THE PACIFIC COAST ARCHITECT



A MONTHLY JOURNAL FOR THE  
ARCHITECTURAL INTERESTS

SAN FRANCISCO  
CALIFORNIA

---

VOLUME FIVE  
NUMBER SIX

---

SEPTEMBER, 1913

# GLADDING McBEAN & COMPANY

Architectural  
Terra Cotta  
Face Brick

OFFICE

Crocker Building, - San Francisco

FACTORY

Lincoln, California

## Announcement

### Fuller Varnishes

ARE NOW READY FOR DISTRIBUTION. OUR VARIOUS BRANCH HOUSES HAVE ON HAND LARGE STOCKS AND WILL WELCOME REQUESTS FOR SAMPLES AND PRICES. THE LABOR OF YEARS HAS BEEN EXPENDED IN PERFECTING THE NEW LINE, AND WE FIRMLY BELIEVE THAT NO HOUSE AND CABINET SPECIALTIES ON THE MARKET TODAY ARE BETTER THAN FULLER VARNISHES

Sept. 20, 1913

W. P. FULLER & CO.

SAN FRANCISCO

Oakland  
Stockton  
Sacramento  
Portland

Los Angeles  
San Diego  
Pasadena  
Long Beach

Seattle  
Tacoma  
Spokane  
Boise

THIS MAGAZINE WAS PRINTED BY

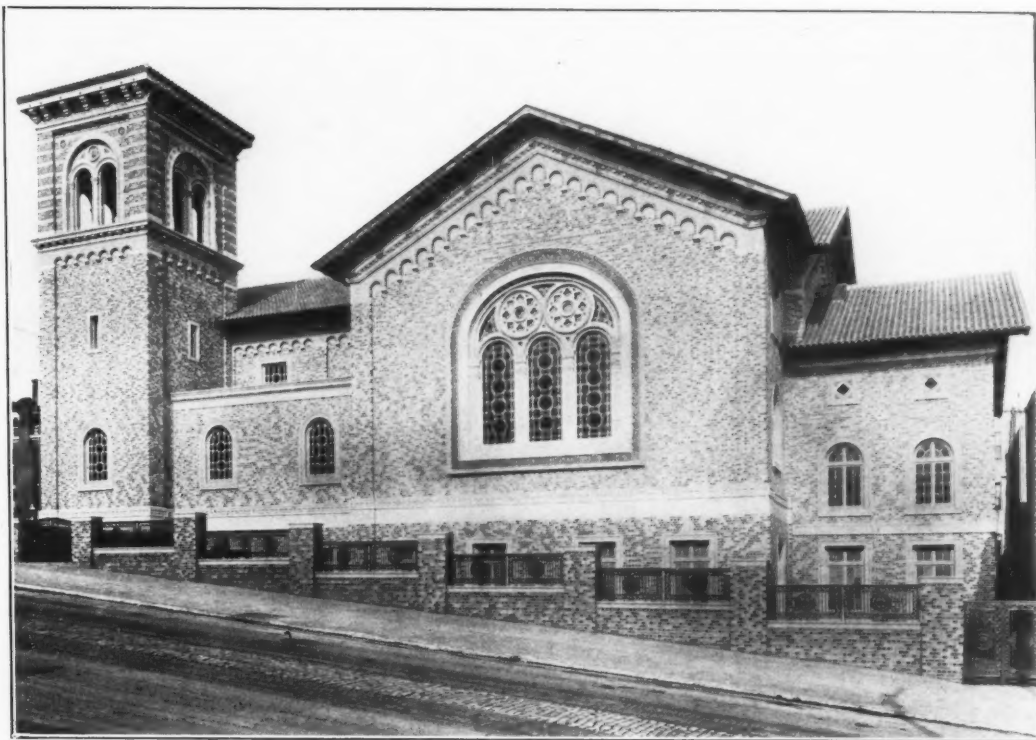
Shannon-Conmy Printing Co.

509 Sansome Street

San Francisco







First Church of Christ Scientist, San Francisco

Edgar A. Mathews, Architect

*The above illustrates a notable example of Architectural Terra Cotta, in  
Polychrome, Face Brick and Glazed Roof Tile, executed by*

# N. CLARK & SONS

MANUFACTURERS OF  
ARCHITECTURAL TERRA  
COTTA, PRESSED BRICK and  
KINDRED CLAY PRODUCTS

116 Natoma Street

San Francisco, Cal.

*St. Ignatius Church  
San Francisco*



## N. & G. TAYLOR CO.'S

"Target and Arrow"

### ROOFING TIN

was selected to cover this St. Ignatius Church Building, San Francisco, Cal., which requires 300 Boxes 14x20 inch TARGET AND ARROW Roofing Tin.

The Sheet Metal contract for this building amounts to \$38,700.00, the largest ever let on the Pacific Coast.

Therefore, the selection and use of our Tin for covering this monumental building is good evidence of the high reputation this old-time hand-made Roofing Tin enjoys.

Chas. J. I. Devlin, San Francisco, Architect.

Forderer Cornice Works, San Francisco, Roofers.

Stocks carried at San Francisco, Los Angeles, Portland, Seattle.

### J. A. DRUMMOND

725 Chronicle Bldg.  
San Francisco

Pacific Coast  
Representative

# BRONZE



Lamps  
Memorial Tablets  
Bank Grilles  
Bank Entrance Doors

Correspondence Invited

## SPOKANE ORNAMENTAL IRON AND WIRE WORKS

PORTLAND, OREGON  
802 Lewis Building

SPOKANE, WASH.

VANCOUVER, B. C.  
815 Metropolitan Building

# THE TIME TO GO EAST IS WHILE THE FARES ARE LEAST

VIA

*Remember*



*Block Signals*

## Unusually Liberal Stop-Over Privileges

In Connection with Low Round Trip Excursion Fares to Chicago, New York  
Boston, Philadelphia, Denver, Omaha or most anywhere

### LET US TELL YOU OF THESE ADVANTAGES

Uniformed Agent Meets All Train and Looks Out for Your Comfort

Portland: City Ticket Office, Third and Washington Sts.  
San Francisco: City Ticket Office, 42 Powell St.

Phones Marshall 4500 and A-6121  
Phone Sutter 2940

Telephones  
S. F. KEARNY 2830  
FACTORY ALAMEDA 509

## N. Clark & Sons

Incorporated Jan. 11, 1889

MANUFACTURERS OF

Architectural Terra Cotta  
Pressed Brick  
Vitrified and Terra Cotta Pipe  
Hollow Tile Fire Proofing  
Fire Brick Tile and  
Kindred Clay Products

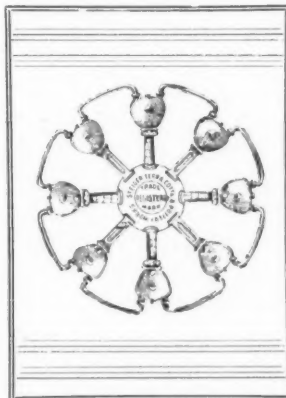
Works: WEST ALAMEDA

Office:

112-116 Natoma Street San Francisco

## STEIGER TERRA COTTA AND POTTERY WORKS

Manufacturers of



Architectural  
Terra Cotta  
Pressed Brick  
Sewer Pipe  
Chimney Pipe  
Flue Lining  
Fire Brick  
Mantel Tile  
Conduit Tile  
Acid Wares

Factory: South San Francisco, San Mateo Co.  
Yard: 18th and Division Sts., San Francisco

Main Office, 729 Mills Building  
Telephone Douglas 3010  
San Francisco, Cal.

# Fraser Gearless Traction Elevator

Is the Greatest Mechanical Revelation of this Decade

---

ARCHITECTS CANNOT AFFORD TO GO WITHOUT  
INVESTIGATING THIS WONDERFUL MACHINE

---

## VAN EMON ELEVATOR CO.

Home Office:

54 NATOMA STREET  
SAN FRANCISCO

Branch Offices:

LOS ANGELES.  
SALT LAKE CITY, UTAH.

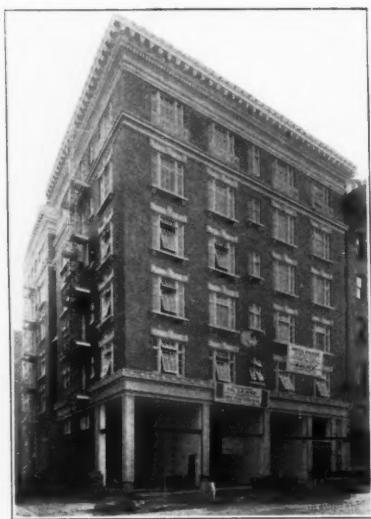
OAKLAND.  
PORTLAND, ORE.

SACRAMENTO  
VANCOUVER, B. C.

## SIMPLEX WINDOW CO.

525 MARKET STREET

SAN FRANCISCO



HOTEL EUGENE  
O'Farrell Street, Opposite Alcazar Theatre  
S. SCHNAITACHER, ARCHITECT

---

☐ Manufactured in both wood and metal. ☐ Underwriters Label secured. ☐ No weights or cords required. ☐ Are reversible wholly outside, therefore do not interfere with curtains or screens. ☐ Weather proof, burglar proof, noiseless. ☐ Adapted for all classes of buildings. ☐ Installed as a reversible casement or reversible large single light. ☐ Now in successful operation in 582 buildings, since March, 1912. ☐ Send for details and prices. ☐ Cost no more than the common double run.

---



# The Pacific Coast Architect



VOLUME V

SAN FRANCISCO, CALIFORNIA, SEPTEMBER, 1913

NUMBER 6

## COAST PUBLISHING COMPANY, Inc., Publishers

L. J. FLYNN, President.

J. A. DRUMMOND, Mgr., Sec. and Treas.

PUBLISHED ON THE TWENTIETH OF EACH MONTH AT  
725 CHRONICLE BLDG., SAN FRANCISCO, CAL.

Subscription in the United States and Possessions  
\$5.00 a Year. Foreign and Canadian \$6.00 a Year  
Single copies, each 50 cents

Entered as Second-class matter at the Post-office at San Francisco.

Changes in, or copy for new advertisements must reach the office of publication not later than the Twentieth of the month preceding issue.

The Editor will be pleased to consider contributions of interest to the readers of this publication. When payment for same is desired this fact should be stated. Self addressed envelopes must accompany all such contributions.

ADVERTISING RATES ON APPLICATION

TEL. DOUGLAS 3424

### Current Comment

"The successful architect is he who, recognizing the achievements of the honest and reliable contractors, does not hesitate to recommend them to his clients as firms from whom the best results can be expected, thus insuring prompt and efficient service for the owners and architect and a legitimate profit for the contractor."



The Leaning Tower of Pisa, Italy, which for many generations has been a great source of revenue to Italians in the money paid by tourists, is reported to be weakening at the foundation. Much work must be done to save it from falling, for water has seeped into the foundation from the River Arno. The water is to be drained off and the base is to be widened and filled to the level of the ground with concrete.



The Society of Architects, London, considering it desirable in the public interest that persons requiring professional aid in architecture should be enabled to distinguish qualified from unqualified practitioners, and that steps should be taken to prevent incompetent persons from posing as architects, have to that end drafted "A Bill for the Registration of Architects." This will be presented in due form to Parliament.

The following present some of the reasons for their action in this regard: Architects have the spending in the aggregate of vast sums of public money and the control of matters affecting the life, health, convenience and financial interests of a very large section of the community. The practice of architecture calls for the possession and exercise of many and varied gifts and attainments, chief among which are, artistic sense and feeling, scientific and professional knowledge, practical skill, and business ability. The various architectural bodies publish registers of their members, but the value of these

lists of architects as a guide and protection to the public is very considerably discounted by the fact that the public directories necessarily schedule under the title of "architect" without reference to his qualifications, any person who claims that designation, whether justified or not. The proposal for the registration of architects is not a new one, nor does it introduce any new principle. It is merely carrying to its logical conclusion of state registration, the present voluntary system of registration of their members by the various architectural bodies. Registration is in force in several European countries, many of the American States, and a number of our own Dominions, while others are applying for it.—Construction.



### System of Lighting for Surgical Operations

A system of lighting recently perfected appears to solve one of the perplexing problems connected with surgical operations, that of a satisfactory illumination of the operating field. Eight 25-watt tungsten globes, operating on the ordinary street lighting current of 110 volts, and arranged in a 6-foot circle near the ceiling line, throw their light in such a way that the rays from opposite globes intersect at an angle of 45 deg. at the field of operation. This, it is claimed, cuts out all the shadows that obscure the depths of certain wounds and enables the surgeon to perform delicate manipulations with ease and certainty that were formerly performed under considerable difficulties. The globes are frosted and are carried in ellipsoidal reflectors somewhat similar to those used on automobiles. Since the illumination is placed at the ceiling line there is little heat to interfere with the work of the operator. General illumination of the room is provided for by means of other lights.



### University of Michigan Department of Architecture

At the last meeting of the Board of Regents of the University of Michigan an important step was taken towards placing the Department of Architecture on a better footing. When that department was organized seven years ago it was made a sub-department of the Department of Engineering for convenience of administration. The action just taken by the Board of Regents makes the Department of Architecture co-ordinate with the Department of Engineering. While henceforth there will continue to be one dean for the new organization, known as the Departments of Engineering and Architecture, the latter department will admit its students and have complete control of its courses of study as in the case of other major departments or colleges of the university. The recognition thus granted the Department of Architecture will be of great advantage in many respects and will help create an even better spirit than formerly, while this step accords directly with the opinion of our leading architects.

### San Francisco Building Operations

Building operations for the month of August in San Francisco were less than for the preceding month of July. Altogether there was a total of recorded contracts and building permits amounting to \$1,755,666. This was for private construction only. It was divided as follows: Brick and fireproof construction \$867,321; frame buildings, \$712,337; alterations and additions, \$144,143; Panama-Pacific contracts, \$31,365. To these may be added city work and construction amounting to \$1,089,279, making in all a grand total of \$2,844,945.

While August was less than June and July, as a general thing August is lax in building activity. Comparative figures from the files of this paper, for private construction outside of the Panama-Pacific work for the last ten years, are as follows:

August, 1904 .....	\$1,565,568
August, 1905 .....	1,579,514
August, 1906 .....	5,640,508
August, 1907 .....	4,030,087
August, 1908 .....	2,597,110
August, 1909 .....	2,588,723
August, 1910 .....	1,743,587
August, 1911 .....	1,686,518
August, 1912 .....	1,797,408
August, 1913 .....	1,723,801

It will thus be seen that the figures for the last four years have been practically the same for the month of August. So that while things generally have been dull and a general complaint that there is nothing doing, still the fact remains that contracts were let to somebody for about the usual amount of construction. No government work was contracted for during the month of August nor was there any work done by the State within the city limits. Generally speaking the month has been about an average one and the prospects seem to be that the advancing year will bring better business toward the close.—Building and Industrial News.

### San Francisco Architect Is Awarded First Prize

Loring P. Rixford has been placed first in the competition for the Royal Provincial Jubilee Hospital, Victoria, B. C. The prize plans receive a premium of \$1,500.

Somervell & Putnum of Vancouver were given second place and James & Davidson of Vancouver, third. The second premium is \$1,000 and the third \$500.

The awards of the advising architect, J. D. Atchison, of Winnipeg, were adopted by the board of directors of the hospital on the ground that the three sets had most carefully considered the arranging of the hospital to assure convenience of modern hospital design.

In his report Mr. Atchison said: "There were 50 sets of drawings, all of which complied with the requirements of the programme, and many were of such exceptional merit that I had great difficulty in making a final selection. Each of these designs shows that the author has made a careful study of this particular problem as well as the administration and design of hospitals in general. In closing I wish to congratulate you on the number of meritorious designs submitted, as a result no doubt of the conditions of competition as prepared by you."

It is understood Mr. Rixford's plan is the most economical, exhibiting besides the fullest knowledge of the site and its possibilities. It has also a dignified front elevation toward the cricket ground.

### Tacoma Architects Make Campaign

The local architects have taken up a campaign against the drafting of tentative plans in competition with each other. The matter was brought up at a recent noon-day luncheon attended by nearly all of the architects of the city. Several of the leading men of the profession have already come out as opposed to the system which drains the resources of the architect, usually for naught. They were the first to break the ice and they reported that they had made, if not an enemy, at least an "unfriend" of the builders who wanted competitive plans without cost. Nevertheless, the other architects of the city have backed them up and also refused to take the job on a competitive basis. As the local architects have not adopted a resolution taking official cognizance of the matter, some of the members of the association are strongly urging that such a step be taken to do away with the tentative plan work altogether. This will probably be brought up at a meeting in the near future.

♦ ♦ ♦

### Best Architectural Work in the United States

The American Federation of Arts recently undertook to ascertain what were the most satisfactory examples of architecture in the United States and to this end invited an expression of opinion from a selected list of persons including members of the Federation, prominent supervisors and artists, sculptors and others having a reputation for taste. The result of the canvass showed the following twenty public buildings to lead the list, and of this list it will be observed that nine are in New York City:

Boston Public Library.  
Capitol at Washington.  
New York Public Library.  
Pennsylvania Railroad Station, New York.  
Trinity Church, Boston.  
Columbia University Library.  
Congressional Library, Washington.  
J. P. Morgan's Art Museum, New York.  
Minnesota State House.  
Madison Square Garden.  
St. Patrick's Cathedral, New York.  
Cathedral of St. John the Divine, New York.  
West Point Military Academy.  
White House, Washington.  
New York City Hall.  
University of Virginia.  
Toledo Art Museum.  
Union Station, Washington.  
W. K. Vanderbilt's House, New York.  
Pan-American Building, Washington.

Following the initial twenty is placed the Metropolitan Tower, University Club and Trinity Church in New York City, and the Museum of Fine Arts in Boston.

♦ ♦ ♦

### Supreme Court Rules in Favor of Architect

An architect has a lien against a building for which he has been engaged to prepare plans and supervise construction, the same as a laborer or material man, the Supreme Court held in the King County case of A. W. Gould against R. C. McCormick. The question has been in dispute under the Washington statute which gives a lien to a person "performing labor upon or furnishing material used in" the construction of a building.

### Style in American Architecture

By R. A. Cram.

The various followings in architecture to-day are so many and manifest that he who runs may read. One is minded, therefore, to say less about style and styles and half a style than of impulse—or the impulses, for they are legion—behind them, and of the goal to which in devious ways they are all tending. Chaos is the only word that one can justly apply to the quaint and inconsequent conceits in which we have indulged since that monumental moment in the early nineteenth century, when, architecturally, all that has been since the beginning ceased, and that which had never been before on land or sea began. Retrospection carries us back to the decade between 1820 and 1830, and there we find a reasonably firm foothold. Here, at last, at the beginning of the century, we discover actual unanimity, and with some relief we go back century after century, tracing variations, but discovering no precedent for the chaos we have left. We all know what our own Colonial was like; perhaps we do not fully realize how varied it was as between one section and another, but at least we appreciate its simplicity and directness, its honesty, its native refinement and delicacy, its frequent originality. It isn't the same as English Georgian; sometimes it is distinctly better, and, however humble or colloquial, it is marked always by extreme good taste. If anything, it improved during the almost two centuries of colonial growth, and when the nineteenth century opened it was still instinct with life. A half century later where were we? Remember 1850, and all that date connotes of structural dishonesty, stylistic barbarism and general ugliness. Here is the debatable period, and we may narrow it; for in 1810 and in 1820, good work was still being done, while in 1840, yes, in 1830, the sodden savagery, diluted with shameless artifice, was widely prevalent.

To me, this decade between 1820 and 1830 is one of the great moments in architectural history, for then the last flicker of instinctive art amongst men died away, and a new period came in. Eighteen hundred and ninety, and we start again. Two tendencies are clear and explicit. A new and revived classic with McKim as its protagonist, and a new gothic. The first splits up at once into three lines of development: pure classic, beaux-arts and colonial—each vital, brilliant and beautiful in varying degrees. The second was and remains more or less one, a taking over of the late gothic of England and prolonging it into new fields, sometimes into new beauties. And now two new elements enter, steel frame construction on the one hand and on the other the secessionist. The steel frame is the enfant terrible of architecture, but like so many of the genus it may grow up to be a serious-minded citizen and a good father. It isn't that now, it is a menace not only to architecture but to society; but it is young and is having its fling. If we can't make it realize that it is a new force, not a substitute, we shall do well. When it contents itself in its own sphere and the municipality says kindly but firmly, "thus far and no further"—the "thus far" being about 125 feet above street level, as in the very wise town of Boston, then it may be a good servant. Like all good servants it makes the worst possible master, and when it claims as its chiefest virtue that it enables us to reproduce the baths at Caracalla, vaults and all, at half the price, or build a second Chartres Cathedral with no danger from thrusting arches, and with flying buttresses that may be content beautifully to exist, since they will have no other work to do, then it is time to call a halt. The foundation of good architecture is structural integrity; and it doesn't matter how beautiful a building is,

if its columns merely hide the working steel within; if its vast vaults are plaster on steel frame and expanded metal, then it isn't architecture, it is scene painting, and it takes its place with the other scene painting of the later Renaissance to which we mistakenly apply the name of architecture.

The secessionist—one might sometimes call him post-impressionist, cubist even—is the latest element to be introduced, and in some ways he is the most interesting. Unlike his confreres in Germany, Spain and Scandinavia, he shows himself little except in minor domestic work—for at heart we are a conservative race, whatever individuals may be—but here he is stimulating. His habitat seems to be Chicago and the Pacific Coast; his governing conviction a strongly developed enmity to archaeological forms of any kind. Some of the little houses of the middle West are striking, quite novel, and inordinately clever; some of the work on the Pacific Coast, particularly around Pasadena, is exquisite, no less. Out of the interplay of these two tendencies much of value may arise.

And there you are: three kinds of classic, two kinds of gothic, skeleton-frame, and secessionist—all are operative to-day, each with its strong following, each, one admits, consummately clever and improving every day; for there is no architectural retrogression in America, there is steady and startling advance, not only in facility for handling and developing styles, but in that far more important affair, recognition of the fact that styles matter far less than style. From a purely professional standpoint the most encouraging thing is the breadth of culture, the philosophical insight into the essence of things, the liberality of judgment that mark so many of the architectural profession to-day. All have found out that architecture is much bigger than its forms, that the fundamental laws are the same for all good styles, and that the things that count are structural integrity, good taste, restraint, vision and significance. No one now would claim with the clangor of trumpets that the day of victory was about to dawn for the beaux-arts, Gothic, or steel-frame styles, or for any other; for that matter, each is contributing something to the mysterious alembic we are brewing; and all we hope is that out of it may come the philosopher's stone that, touching inert matter, shall turn into refined gold—which by the way is the proper function of architecture and of all the arts.

Chaos then confronts us, in that there is no single architectural following, but legion; and in that fact lies the honor of our art, for neither is society one, or ever at one with itself. This is one of those great 500-year periods of boiling activity, one of those nodes that periodically divide the vast vibrations of our history, when all things are in flux, when all that has been for four centuries is plunging downward in disintegration, while all that shall be for another equal period is surging upward towards its culmination.

I believe all the wonderful new forces now working hiddenly, or revealing themselves sporadically, will assemble to a new synthesis that will have issue in a great epoch of civilization as unified as ours is disunited, as centripetal as ours is centrifugal, as spiritually efficient as ours is materially efficient; and that then will come, and come naturally and insensibly, the inevitable art that will be glorious and great, because it shows forth a national character, a national life that also is great and glorious.

Reduced to its simplest terms, American architecture is seen to have had two epochs. First, the attempted conservation of a definite style (which, whatever its genesis, had become an essential part of our racial char-

acter), and its complete disappearance exactly at the time when the serious and conservative nature of the people of the United States gave place, with an almost equal suddenness, to a new quality born partly of political independence, partly of new and stimulating natural conditions, partly of the back-wash from continental revolution, and above all of the swift working out, at last, of powers latent in the Renaissance-reformation itself. Second, the confused activities of many men of minds who had cut loose from tradition become moribund. Communal interests, the sense of solidarity, inherited from the middle ages and persisting in strange new forms even through the Renaissance epoch itself, had yielded to a crescent individualism, and architecture, like a good art, followed close at heel.

◆ ◆ ◆

### A Glass Building Twelve Stories High

Something of a decided novelty in the way of a commercial building has just been commenced at the corner of Tenth avenue and Thirty-sixth street, New York City. The architects, Goldwin, Starrett & Van Vleck, have provided the plans for a 12-story skyscraper in which the entire front of the building and its interior sides are to be entirely of glass. In fact, 78 per cent of the walls will be of this material. There will be no openings in the glass facade except those in the front of the building for emergency purposes, but which will not be visible from the street.

Ventilation will be accomplished through a specially devised system of ducts through which will be forced cooled and washed air and let into the offices at whatever temperature the tenants may desire. Humidity will be an unknown quantity, as it will all be washed out of the air, which will be cool, dry and free of all dust. In the winter season this same system will furnish heated air.

Vibration usually noted in buildings where heavy machinery is operated has practically been eliminated and anti-noise has also received attention in other directions. All floors are to be rubber-tired.

It is estimated that the structure will cost approximately \$600,000, of which amount \$78,000 will cover the cost of the glass. On the interior the glass will be a specially polished plate and for the exterior surface will be a specially treated plate that will not transmit heat waves into the interior.

In the basement will be a power plant which will be one of the most complete of its kind in the world. There will be express and local elevators of the plunger type and special elevators for various floors. The structure will be known as the Hill Engineering Building and the first four floors will be occupied by the Hill Publishing Company. In its quarters there will be electric machines for opening and sealing mail matter, dictaphones and noiseless typewriters. Another feature of this section of the building will be a contrivance for carrying "copy" between two floors, which is said to do the work of 22 "copy" boys. The mail chutes will be sufficiently large to mail whole sacks of matter instead of one or two letters, which is the average capacity.

◆ ◆ ◆

### New Ice Invention

Consul General Snodgrass in Moscow reports that great interest is being shown in a new invention called "minus ice," which represents a frozen solution of salt of various grades of concentration.

### Infested Architecture

Three distinct parasites fasten on our city buildings, confusing their scale, cluttering their base lines, masking their decorations, disheartening in advance to the conscientious architect.

The first is the lettered signboard, made not merely to be seen, but to catch and hold the glance. In some form the sign is a necessary evil. But could it not be reckoned with more boldly by the architects, both in designing elevations and in advising clients after occupation? Some day merchants will come to see that beauty in the wares for sale and in the window schemes for their display calls also for a framing beauty in the whole store front.

The second parasite is the creeping vine. Some buildings deserve it; season by season they need the close mantle of rippling green or the clinging veil of netted runner and tendril. The coarser and heavier the building, the greater its need for some such figure covering. But other buildings, clean cut and pleasantly proportioned, telling a structural story in lines well carried through, or taking the eye with finely wrought texture and detail—these have no need for a kindly covering of blemish and defect; they have a right to be seen bare and in their full design.

The last of the three parasites is neither a necessary evil nor an occasionally pleasing risk; it is an abuse, tolerated only for a trifling convenience for the dollars it brings in. It is the vendor's booth, lodged in any available nook or corner of any building that the crowd passes. The stands of these petty traffickers in post cards, peanuts and penny candies no more regard the walls they huddle up against than the nests of the plastering mud-wasps regard the carvings on the temples of old Egypt.

European cities have made visitors familiar with the so-called "freeing" of cathedrals and other public buildings. In the days when a city's walls were not for romance, but for service, the same pressure that kept streets narrow and houses overhanging finally forced shops and dwellings against the very sides of the noblest buildings. In these later days with the old walls razed for "ring parks" or left standing far down as documents of early history, the cities have been clearing their important buildings of all that has marred their beauty or concealed their merit of design.

Cannot we Americans take the hint?—Boston Herald.

◆ ◆ ◆

### The Largest Stone Ever Quarried

What is said to be the largest stone ever quarried is a great monolith in the ruins of Baalbec in Syria. It is 69 feet long, 14 feet broad, and 17 feet deep, and is estimated to weigh 1,500 tons. It is thought by archaeological scholars that this huge stone was intended by the ancient builders to adorn the Temple of the Sun near by—now, of course, in ruins.

Here, in one of the walls, which still stand, are to be seen huge slabs of stone, which careful measurements show to be 63 feet long and 13 feet high. And, more remarkable still, they are placed in position 19 feet above the ground level. Moreover, although no sign of any cementing mixture is to be found in these ancient buildings, the stones have been squared and polished so evenly that only after the most minute search can the joints be found, and when traced it is impossible to thrust the blade of a pocket-knife between them.

### Architects Angry Over Hotel Law

Local architects who have made a study of the provisions of the new hotel building law are unanimous in their criticism of that act, and some of them go so far to declare that it amounts to confiscation of small and shallow lots, whatever the frontage may be, in downtown sections where apartment houses are not considered as suitable to the location.

The new hotel act was prepared by State Senator Burnett, and it went through committees and both houses of the last Legislature and finally received the approval of the Governor June 16th last, but it was never submitted to a committee of architects or structural engineers. Senator Burnett says that inasmuch as there was no opposition nor even comment on the bill when it was before the Legislature it was deemed satisfactory to all parties concerned, such as real property owners and architects.

Now that the law has gone into effect, however, many objections are heard against its requirements. The intention of the act is to do for hotels and rooming houses what the tenement house law has done for apartment houses—that is, to assure better sanitation and more light and fresh air, but it seems from statements of architects that the new law, while admittedly commendable, has gone the wrong way about accomplishing the desired results. The architects add that what was wanted in framing the act was requisite technical knowledge and skill.

It is no longer possible to build a hotel downtown and have the entire ground floor occupied as a store or stores, and to have light wells or courts begin at the first story. The act provides that there shall be a yard in the rear of the lot extending from the ground up, and this yard must never be less than seven feet deep, while in most lots it must be twelve feet deep. This means that a lot in the shopping sections of the city must have a yard in the rear if a hotel or rooming house is erected above the store. Real estate agents who lease business places say that this enactment cuts the value of small lots downtown, unless such lots can be used for loft buildings, of which there are enough.

In case of a shallow lot with a wide frontage it is said that a court in front or back is the best possible plan for light and air, but this cannot be done, because the rear yard is required, and with the yard deducted there would not be enough ground left for the building and central court. As side or lot-line courts are required to be placed lengthwise, the architect is forbidden from using the same space, as specified in the act crosswise where such a plan would best suit a given lot. On corner lots the store may cover the entire lot, but there must be a yard space from the roof of the store, or second story joists, so that in such hotel buildings there will be an open space in the street line above the store of at least five feet and ranging as wide as seven feet, according to the length of the lot.

Windows in side walls upon lot lines are prohibited for hotels or rooming houses, and the act has been construed to apply to lots where the owner owns the adjoining lot and has a low building there to insure him light and air for his hotel.

Applications for building permits for hotels and lodging houses must be accompanied with affidavits, giving in full the name and address of the owner. If the application is not made by the owner the statement shall contain the name and address of every person interested in

the hotel or lodging house, "either as owner, lessee or in any representative capacity."

Upon completion of such building, or alteration, and the issuance of certificate of final completion by the building bureau, it is made necessary to get a permit from the Board of Health to occupy the building as a hotel or rooming house. The Board of Health and Board of Works are given power to apply to the courts for orders enforcing the act, and fines imposed for violations are made a lien upon the property involved and a cloud of record upon the title.

Every owner, lessee and person having control of a hotel or lodging house is required to file with the Board of Health a notice containing his name and address and a description of the property by street number and character of the building. In case of a transfer of such building, the grantee must file within thirty days thereafter with the Board of Health a notice of the transfer and the same facts. And where the property passes by will or descent, the executor, administrator or heir must file a similar statement. These names and addresses shall be indexed in the Health Department for public inspection.

Though a State law, the act sets forth that the Board of Health shall provide the necessary books and clerical force necessary to keep this new record, and the expense shall be paid by the city and county. Finally, an annual license is required to be taken out by hotel and lodging house keepers.

♦ ♦ ♦

### Limit of Skyscrapers Not Yet Reached

By L. C. Breed.

The objections, according to some architects, notably C. H. Blackall of Boston, to the skyscraper (meaning in Boston a building over ten stories) are chiefly aesthetic. So far as safety is concerned the limit has not been reached even in New York and in all cities, independent of local restrictions, the height of the building has been simply the financial outlay.

Steel construction would appear to have solved the problem, since, if the base is large enough, the height of the building may be carried to the distance which the investment will permit. Steel embedded in cement is as indestructible as anything on earth—the important feature consists in the necessity of the plans being followed to the letter and all mechanical work done thoroughly and perfectly. The structural strength does not come from externals, but from the steel, and the superiority of modern construction over the old-fashioned stone exterior and column idea of utility has long been conceded.

The problem of protection from wind is not one of serious import, since plumb lines dropped down elevator walls in the Flatiron building during heavy windstorms have indicated but a small degree of vibration; in fact, the weight of a skyscraper is so great that it contributes largely to its own safety.

Among the problems involved in the construction of skyscrapers are the distribution of water and heat. How to get water up thirty to forty stories is a job which perplexes architects and engineers. In the higher buildings of the future it may be found practicable to establish tanks at stated intervals and force the water upward by pumping. The matter of elevators would, in a building of extreme height, be found to present a difficult problem. Mr. Blackall's idea provides for running them like electric trains, five or six in a wall, all following a loop-like route up and down the structure. Instead of returning over the same route, they would make a continuous journey around the building, going up one side and coming down on the other.

With respect to protection from fire it would seem that no one should claim that it is impossible to build a structure which would be proof against the effects of fire from within or without. If wood is entirely dispensed with, each story cut off from direct communication with the other, all outside windows equipped with wire glass, sprinklers and automatic fire alarms properly installed, it is claimed the fire hazard may be dismissed as being quite within control.

In addition to the complaint of some people regarding the appearance of a city's skyline is the fashion in some quarters to decry these great structures as lacking in proportion and taste, but it is conceivable that in time architects will evolve plans which will render the skyscraper more acceptable from an aesthetic standpoint.

◆ ◆ ◆

### New York to Have New Skyscraper

A skyscraper whose topmost tower will rise 901 feet above the curb is planned by the Pan-American States Association. Unless plans miscarry, it will be built in this city, constructed wholly of materials from the Latin-American republics, will wrest from the Woolworth building the distinction of being the world's tallest habitable structure and will be ready for occupancy with the opening of the Panama-Pacific Exposition in California in 1915.

Such, at least, are the tentative plans of the promoters. Plans and specifications for the structure have been drawn and will be given to a building committee of the association for review and acceptance. Francis H. Kimball, designer of notable downtown skyscrapers, made the plans. The estimated cost of the structure is \$9,000,000. The site has not yet been selected. It is intended to erect the building as an enduring monument to Pan-American industry.

The Woolworth building, now the tallest in the world, is 750 feet high; the Metropolitan, its nearest rival, 700 feet.

◆ ◆ ◆

### Five Dollars Each for 50,000 Bricks

How to sell 50,000 bricks at \$5 each was told to the Ad Club men at a recent luncheon by Judge Jesse J. Dunn of Oklahoma.

The story of the sale of the bricks was narrated in order to stir the Ad Club men to inaugurating a campaign among the Ad Club men of the United States to raise funds in those States that have not already appropriated amounts for Exposition purposes.

Judge Dunn is the Oklahoma Exposition Commissioner, who came here recently to dedicate a site for that State. Oklahoma did not appropriate through its Legislature and money for Exposition purposes, but the Ad Club men, alive to the necessity of their State making a wide participation at the Exposition, started the plan of selling the bricks.

Judge Dunn told the Ad Club men how they got the bricks and what they intended to do with them. Each brick was sold for \$5 and the name of the purchaser stamped on it. The bricks will be brought here and used in the construction of Oklahoma's pavilion at the Exposition. At the close of the Fair, the building will be dismantled and the bricks returned to Oklahoma to be used in the building of a school house to commemorate the progressive spirit of Oklahoma's citizens.

### The Analogy Between Horse-Racing and Estimating.

By G. Alexander Wright.

May it not truly be said that there is very little difference between horse-racing and bidding on buildings? Are they not "gamble"? The invitation to figure and the jockey's start are similar; both events arouse a like interest; both hope to win. The odds are long, for there are many entries. There is the usual horse-racing talk about the "dark horse," the "favorite," the "pull," the "inside track," and so forth, none of which is probably ever true, in either case; but it is horse-racing talk.

At last the start is made, and away they go! The bidders and the ponies over the same ground, the same course, and the owners look on and speculate. The primary object is to get ahead of each other, win at any cost, and each competitor does his best to beat the other fellow. If the first jockey in has forgotten or omitted anything, he is disqualified. If the bidder forgets or omits anything, he "gets the contract." It amounts to about the same thing, and the bidder is quite as much of a real sport, for he takes his "medicine today and gambles again tomorrow." But this is not what I started out to say, if, perchance, it has had the effect of seriously arresting the reader's attention to a most important subject, some good purpose may yet be served.

And now to be serious: Speaking of estimating in competition, an experienced and well-respected western contractor recently described our present estimating methods to me as "a horse-racer's gamble." Few architects, if they will look squarely at the facts, can honestly differ with the candid western contractor. Owners, and persons not over kindly disposed toward architects, claim that we know but little about the "cost" of a building; but these same people do not themselves know anything of the mysterious and devious processes involved in the obtaining of a bid, which, unfortunately, they too often think is to be the "cost" of the building. Architects, however, know of these things, and that the word "estimate" or "bid" does not really mean the "cost," when the work is finally completed. Architects, however, seldom deem it their duty to enlighten clients upon such matters, and this is especially so in the case of the architect who, by whatever means he may choose to employ, is able to persuade owners into believing that he can give them cheaper and quicker results than some other architect having offices round the corner.

It is not an unusual circumstance for a contractor to sign up for a job, when even the best of us are morally certain that the work as shown and specified, can never be properly done for the money. But we as architects are paid to see that it is so done, are we not? Why then should we allow an owner, or ourselves, to accept such a bid, and so to place this burden upon any contractor, who, for want of a systematic method, under-estimates his quantities, or, as too often happens, omits something entirely? Some owners (happily not all) are looking for these mistakes, and are ready to seize the advantage, usually in the mistaken idea that they are to get something for nothing. Some architects will be perfectly content with the thought (more is the pity!) that it is none of their business; that it is up to the contractor to look out for himself.

It is well known that under our uncertain system of estimating, by which the contractor is made to take all the chances, these things do and must occur; that they are winked at, and that they cause much unnecessary

trouble. But is this good practice, or sharp practice? Surely our ethics should extend beyond the mere personal equation; so, to put it plainly, is it "honest?"

Is it just, when we, in a sense, undertake to act as arbiters of the contract? If not, can we wonder at the thousand and one questions, difficulties and extras which occur in the supervision of such a contract, under the present system? Can we wonder that contractors are sometimes suspicious?

But, not to dwell too long on this picture, let us seek a practical remedy for removing these and the other similar conditions which make such a picture possible. The individual architect or owner, let it be said, is not solely responsible. The entire trouble lies in our senseless, wasteful, unscientific, and wholly faulty methods of inviting bids, and in the encouragement to gambling which we, who should be the first to condemn, still extend to bidders. That the contractors do not rise up and smite us, is really a source of wonder to me. Not our business, indeed! It is our business to encourage better and more honorable methods.

The scope and character of our construction has advanced so rapidly and considerably of recent years, that scarcely anything is done now as it was even twenty years ago; and the time now allowed to a contractor for estimating, is altogether too short; conditions are not conducive to accurate results. Without accurate quantities, there can of course be no accurate bids, and with our rough-and-ready guesswork methods, wide differences in bids must necessarily prevail. The lowest bid is usually by no means the most accurate, and frequently it is out of all proportion to the quantity and character of the work under contract. Before the work proceeds very far, the mistake is discovered; then there arises the natural desire of the contractor to save on his contract.

But the difficulties, and sometimes friction, which we meet with upon our buildings in progress are not usually caused by the effort of the lowest bidder (sometimes spoken of by the daily press as the "fortunate" contractor) to make a larger profit than that to which he is entitled; the difficulties are quite as often due to his not unnatural wish to keep his loss on the contract within the smallest possible limit.

Therefore, is it not indisputable that incorrect quantities are in the first place largely responsible for unnecessarily low, and consequently inaccurate bids, which, in their turn, cause so many of the architect's troubles?

Another factor is the too short time allowed to bidders for estimating, while a third and very important factor is found in the fact that our modern methods of construction require special training in order to take off quantities accurately. Few contractors possess these advantages, and even if they did, fewer still could find the time to put the principles of scientific quantity-taking into profitable effect.

The ridiculous—even the ludicrous—side to our present way lies in the fact that when contractors are invited to submit a bid in dollars and cents in competition, off they go (like the race-horses) to compete against each other, neck and neck, as to the quantity of material the job will take; and the more careful a bidder is, in taking off his materials accurately, the less chance he has, under present methods, of getting the job!

The whole business seems absurd to anyone with any pretense to experience in quantity-taking. There can only be a certain amount or quantity of material necessary, and no amount of figuring can make it less; it is folly, therefore, to think that a number of bidders on a piece of work will all succeed in taking off just the right quantity; one person might, but not a dozen or more.

If some system could be adopted whereby each bidder would be furnished with a complete, detailed list of the exact quantities of materials and labor required (thus placing all bidders on the same basis), then the competent, careful contractor would get more contracts at proper prices, and so be able to do better work, while the incompetent and the shoe-string bidders would either have to become more competent, or seek other fields of industry; a result which would prove quite as much of an advantage to architects as it would to the remaining contractors.

It is obvious that some such system must in time displace our present wasteful and primitive method, if for no other reason than for the benefit such a system would confer upon both architect and client. It would seem that much good would result, if the Chapters throughout the country gave some consideration to this vital subject, and familiarized their members with the advantages that would follow the adoption of some standardized method or system of estimating upon quantities. This and other kindred subjects have recently been receiving consideration in certain Chapters, while many architects and contractors in different states are well known to favor the adoption of an estimating system, based upon accurate bills of quantities, which shall become the true basis of the contract. This will certainly be done some day, and then we shall all wonder why so much time, effort, and money has been thrown away in the past.

Δ Δ Δ

### A Dwelling House of Unusual Construction

A dwelling house involving some rather unique features of construction is under way on the ranch of A. K. Macomber, near Hollister, Cal. The house is in the Moorish style of architecture and a feature will be a patio in the center with a concrete swimming pool, 52x72 feet in size. The house covers a ground area of 124x116 feet and 18 of the rooms will be finished in white cedar and birch. One of the most striking features of this residence, which will be of frame with stucco finish, will be an arch roof of Roman bronze screening supported by five steel girders.

◆ ◆ ◆

### Different Paint Ingredients

Architects and builders should be familiar with the ingredients of paint. Besides the vehicle and pigment, paint sometimes contains volatile thinners, such as turpentine or benzine. A drier, in some form, is generally used in oil paints. This drier is a compound of lead or manganese, generally both, soluble in oil and is usually sold under the name of "paint drier" or "paint japan," as a solution of such material in a mixture of oil, turpentine and benzine. An addition of from 5 to 6 per cent of this drier placed in raw oil paint will make it dry in from 6 to 12 hours, sufficiently to be handled. Paints, however, are not sufficiently dry to be used until they have been allowed to stand for at least three days.

No more than 10 per cent of any drier or japan should be used in any paint. Slow drying paints are more durable than quick drying ones. For exterior surface painting, a mixture of two parts of lead and one part of zinc is much liked. Zinc-lead, however, is the name of an entirely different pigment made by calcining ores containing about equal parts of lead and zinc in which the lead is present as a sulphate. This pigment is free from the liability to turn brown if exposed to sulphate gases. But it is not so pure a white. It is a comparatively new pigment and because it is cheaper it is coming rapidly into use.

### First Church of Christ Scientist.

Among the many beautiful examples of ecclesiastical architecture in California, probably the most striking is the First Church of Christ Scientist in San Francisco, of which Mr. Edgar A. Mathews is the architect. Into this building the architect has put his best efforts and the result as it stands today is worthy of considerable notice. To the layman as well as the professional, the color scheme of this church has a peculiar attraction, combining, as it does, the bright, cheerful colors of Spring with the soft warm browns and dull reds of Autumn. The delicate terra cotta ornament is concentrated where it blends most harmoniously on the main facades, while the graceful lines and proportions of the building as a whole are a perpetual delight to the eye. Often as one may see and examine it, it is of that kind of art which does not satiate, but ever reveals some fresh beauty in line.

Viewing the building from the outside, one is attracted first of all to the main brick walls of varying shades of warm gray, yellow, golden brown, etc., with introduction here and there of a red or dark chocolate brown header. The trimmings are of matt glazed terra cotta where a temperate use has been made of polychrome in the cornice directly under the projecting eaves to the gables and in the upper part of tower. In the large auditorium window upon one side, the rose window in front and the inner portion of front entrances, a restrained use of color has also been made. The brick directly under the terra cotta gable cornice is a warm gray color with small arches over the corbels of a soft dull yellow shade.

The roof, almost as much as the walls, attracts the eye at first glance with its gray green terra cotta tile; the wide projecting eaves to roof and brackets supporting same (which are of copper), giving those splendid lines to the building which count so much in the ensemble. Later this copper is to be touched up here and there with dull gold, greens, blues and reds while the soffit panels between projecting rafters are to have a dull gold background. The main portion of copper, however, will be left to weather stain. The front entrance steps are of white marble with panels of brick as a pleasing contrast in the platforms. Side entrance steps to Sunday school room, also walks of brick, form a fitting approach to the building. As a final touch, the color scheme of the exterior has been enriched by bronze fences and gates, bronze lamps and bronze doors to the entrances.

When one steps inside the church a quiet, restful, peace-loving atmosphere radiates round him—a blending of colors, the diffusion of light, a harmony of line, the exquisite detail—all tends toward the delicate beauty of the interior. On the painted and sanded walls is a golden hue—the organ screen and low wainscoting trim harmonizing in a light warm gray. The platform furniture likewise, and the pews are in grayed oak. A soft shade of tan in the carpets gives a fitting contrast to these. In the windows is glass of a dull "rippled" quality which produces a warm golden glow throughout the interior and gives a very slight touch of green to the gray oak woodwork.

Beneath the gallery a wainscoted partition of similar gray oak, enhanced by delicate hand-carved ornament, has the effect of a wooden screen constructed across the full width of the building. A similar wainscoting is to be found in the vestibule; the floor being of "Rookwood" tile in a tan shade with patterns of cream colored marble. Between the vestibule and the auditorium the doors are covered with tan leather. Another unique feature is the perforated organ screen made of composition material, strengthened by wire which is worked throughout—this open work allows sound from the organ to be trans-

mitted through. No better acoustics in a church can be found than those in this one—they are exceedingly good. Probably the most noteworthy achievement of the architect in working out these plans was the way in which he solved the lighting problem. The lighting is direct diffused with "Alba" glass and this helps to make what is undoubtedly one of the best lighted auditoriums in the West.

Seats in the Sunday school room are to be settled eight feet long, every other one having a reversible back. The alternate rows only will be fastened to the floor so that one row can be pushed back to the next stationary row, and back reversed, thus providing space for small classes. Of special interest is the symbolical use of the vine—St. John 15. "I am the vine, ye are the branches, etc."—one sees in the bronze gates, main entrance doors, in the pulpit (more properly called "reader's desk" among Christian Science Churches) and chair; around arch to platform, around the two large auditorium windows, in the large columns or interior piers, supporting roof, etc., etc.—it is most fittingly and beautifully worked in.

Having viewed the exterior and interior both, instinct registers the lasting impression, one of refinement in line and detail, exquisite blending of the tones and colors, and above all a bright optimistic atmosphere radiates from the building—an impression delightfully refreshing coming as it does from a church set in the midst of rather somber surroundings, and one of which the architect may be justly proud.

Finally, it is a distinct and beautiful acquisition to the architecture of the community.

◆ ◆ ◆

### Production of Slate in the United States

According to the United States Geological Survey, in an advance chapter on slate, the production of that material in the United States in 1912 was valued at \$6,043,318 which was an increase over 1911 of \$315,299. Of the amount produced \$4,636,185 represented roofing slates, a production of 1,197,288 squares.

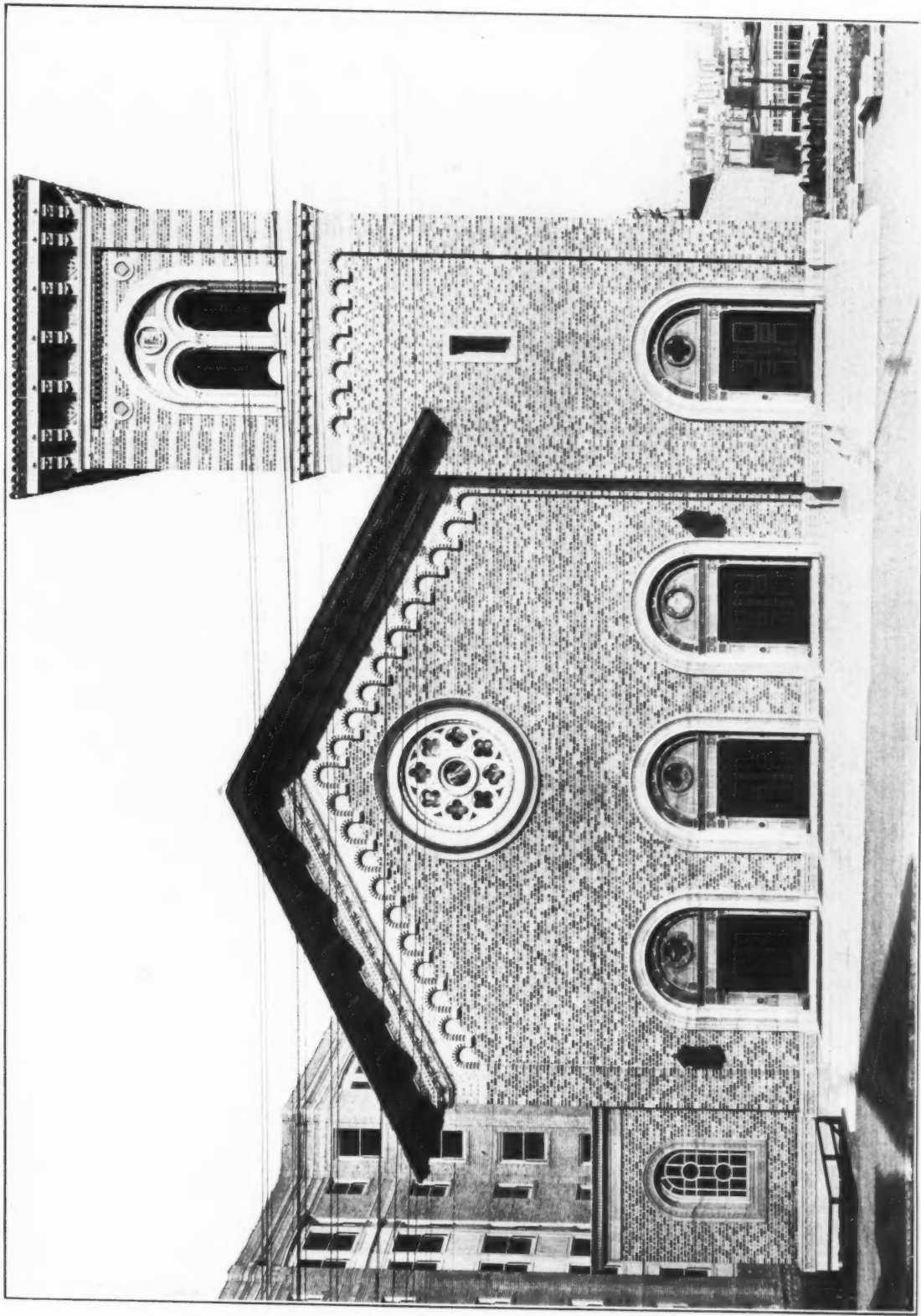
The roofing slate industry has shown a general advance since the first report of the Geological Survey in 1879, when the number of squares produced was 367,857, valued at \$1,231,221. The record production was in 1902 when 1,435,468 squares were produced and the greatest value was in 1903 when it amounted to \$5,345,078.

In 1912 there were produced 2,898,742 square feet of blackboard material and 4,482,571 school slates.

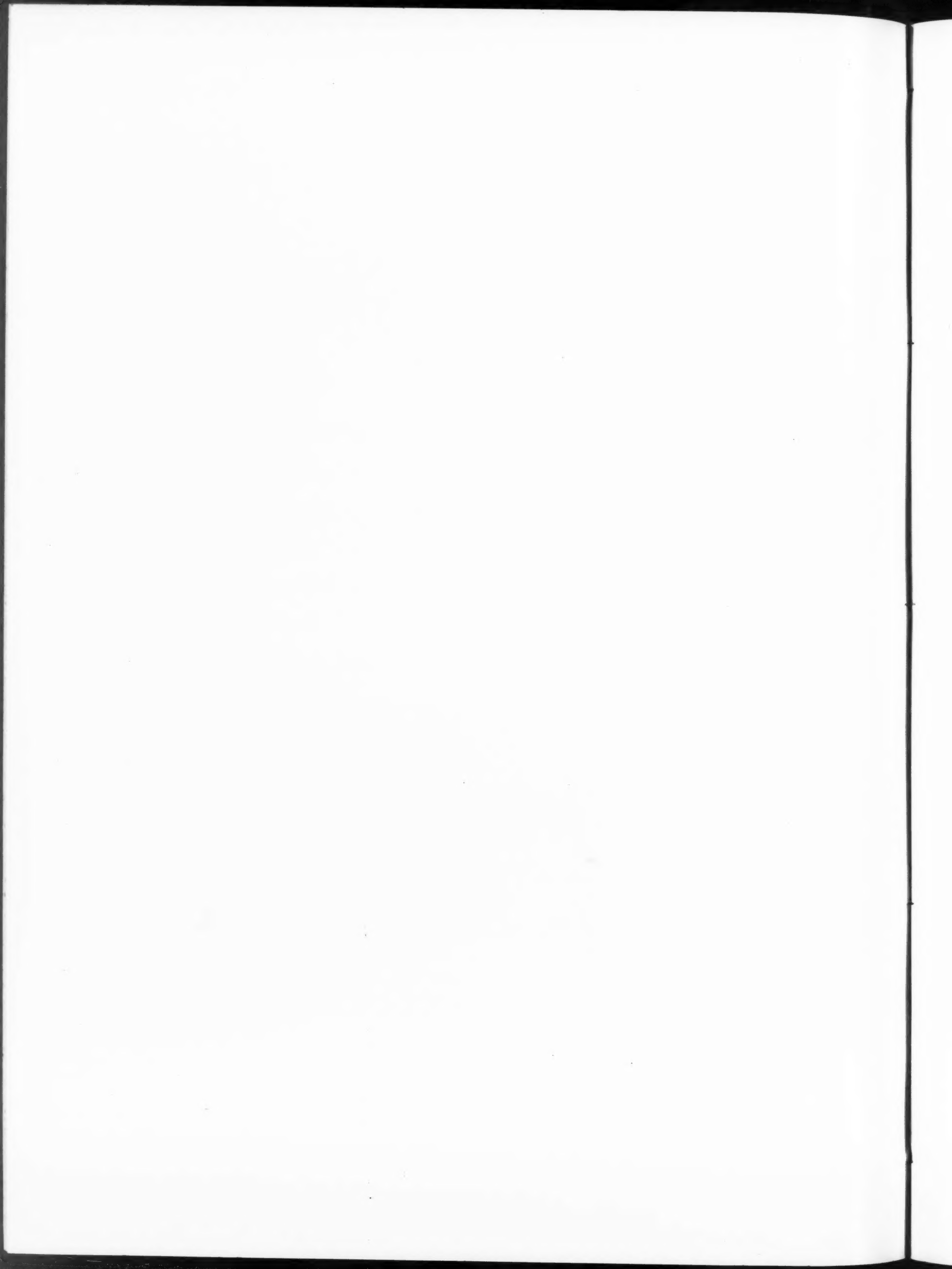
Probably one of the most important economical devices in the slate trade is the machine for splitting the slate. As now produced the making of roofing slate is nearly all done by hand by a dressing gang of three men—a block maker, a splitter and a dresser. The mechanical device does away with the dressing gang and makes the slates, it is claimed, more rapidly, more perfectly and more economically.

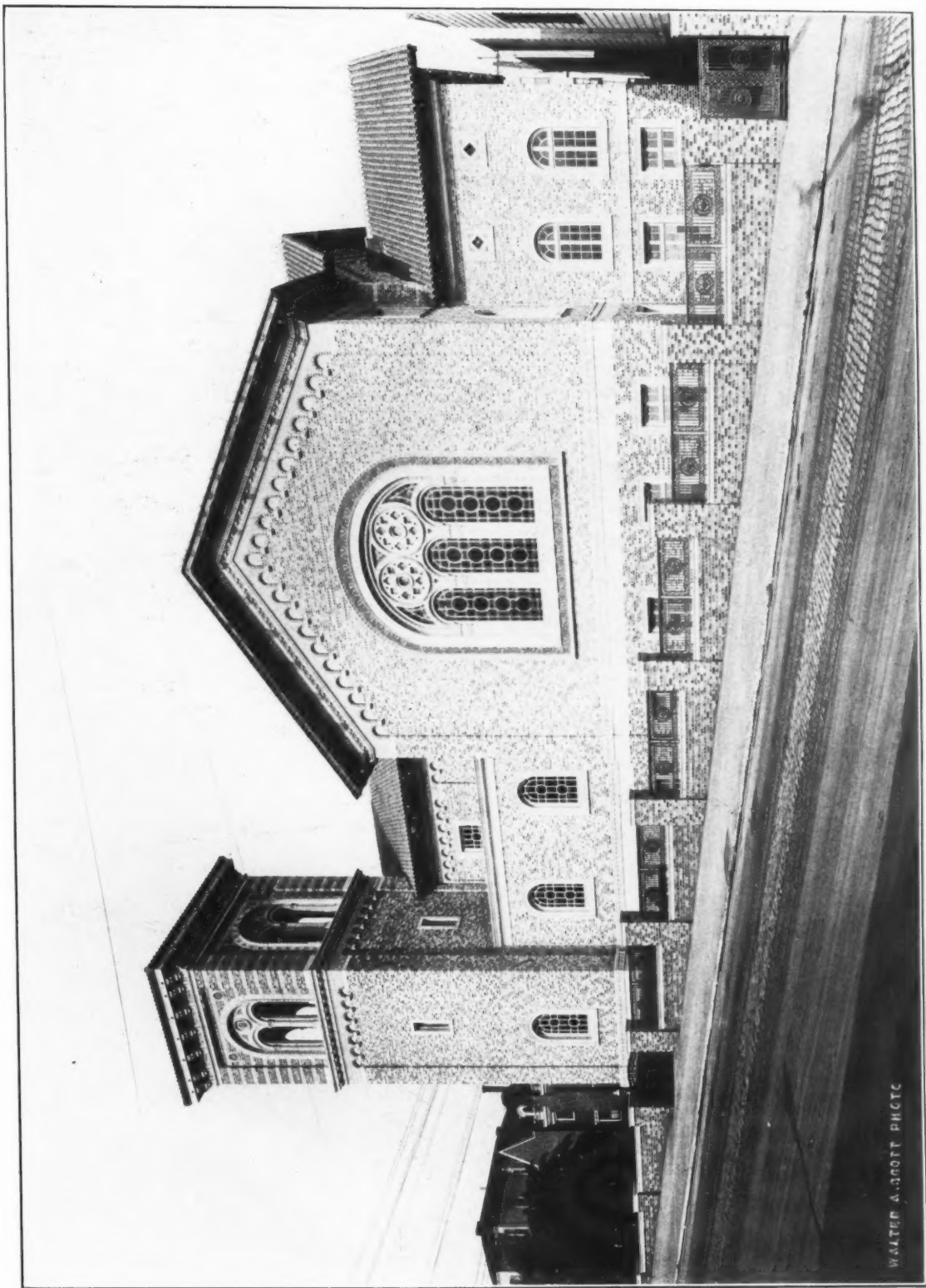
Objection to the use of the mechanical slate splitter has been made on the ground that some of the slates are full of ribbons and other defects which would break up the slate under the machine. The ribbons and defects, however, are not a condition of all slate and the defective slates would break under hand-splitting as well as under the machine.

Another point in favor of the splitting machine is that it will split blocks which have become somewhat dry through the loss of their quarry water on continued exposure to the air. It is almost impossible to work up slate of this character by hand and it has hitherto always found a place on the dump.

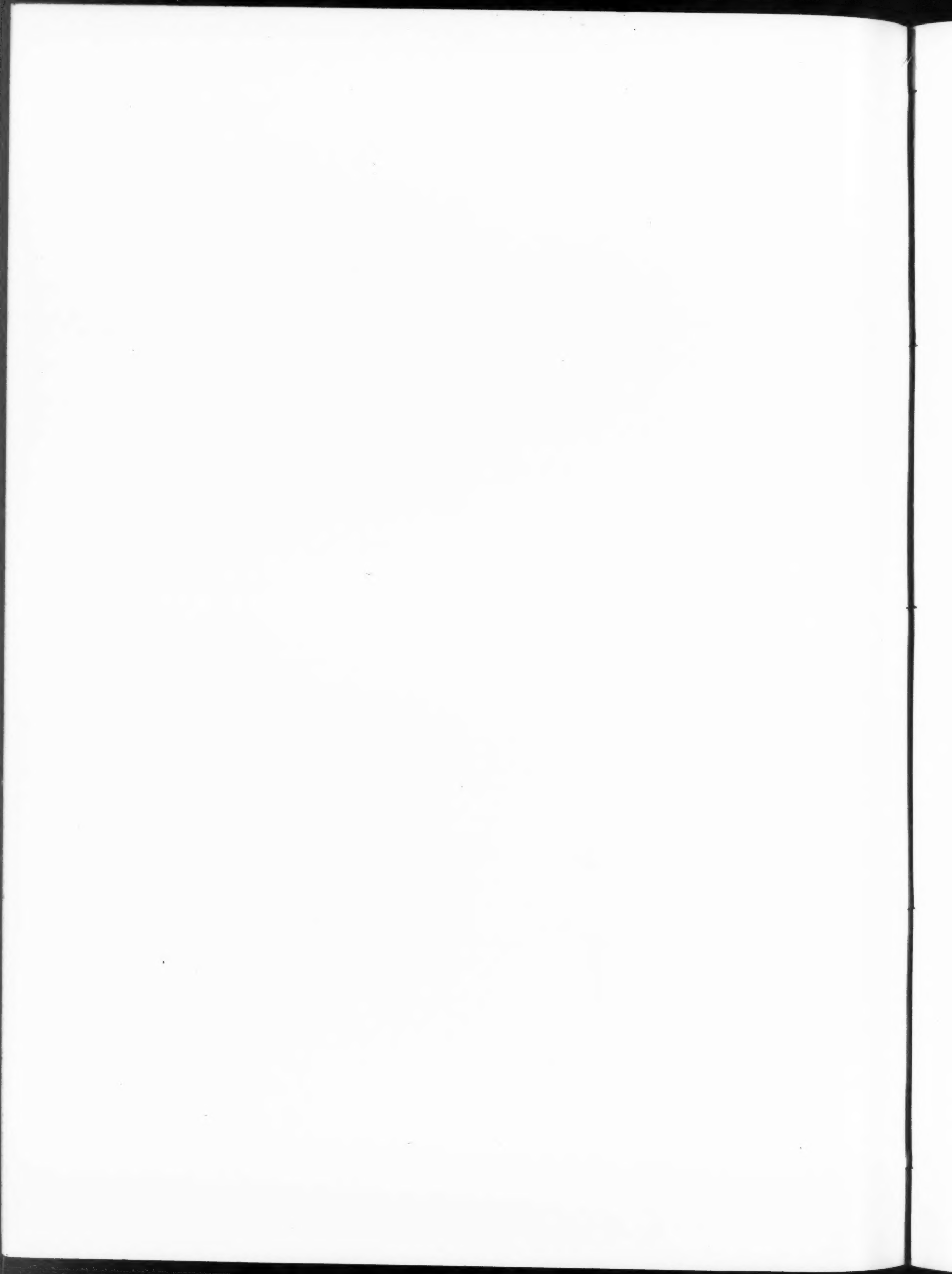


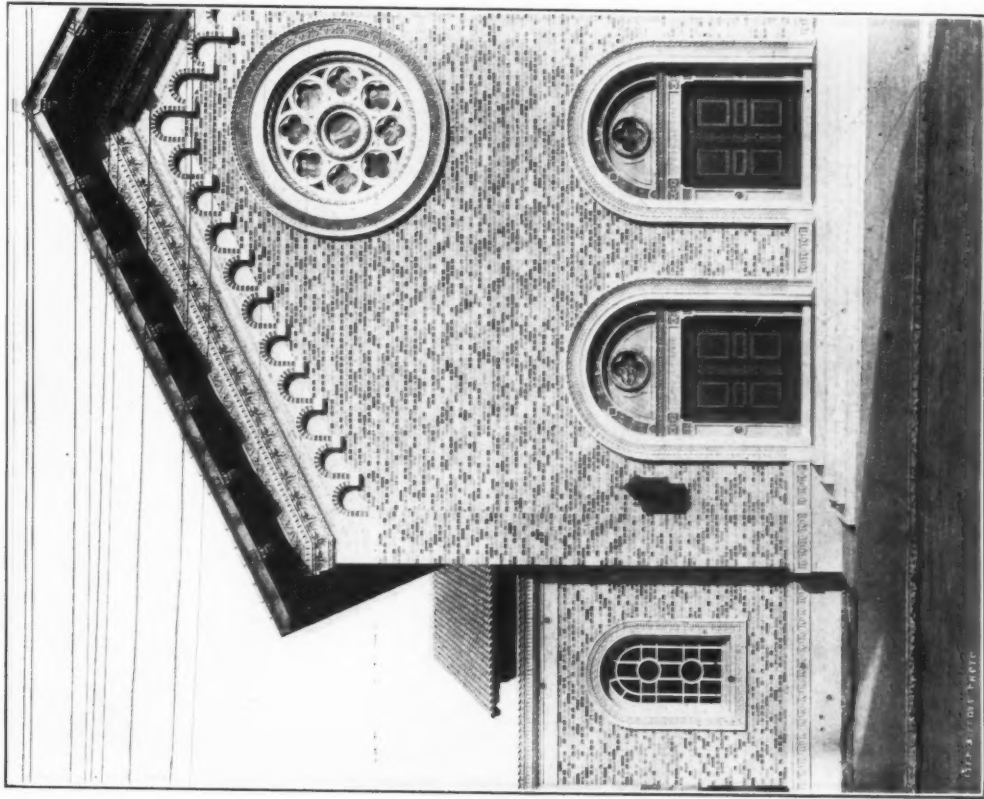
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.





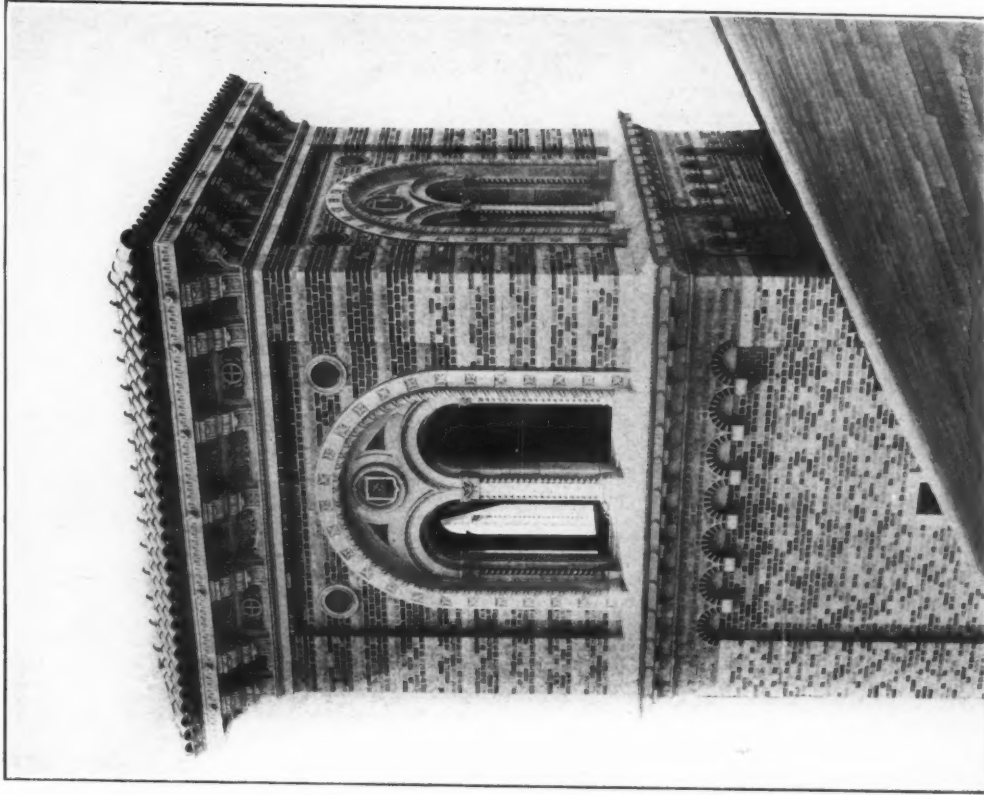
Side Elevation,  
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.



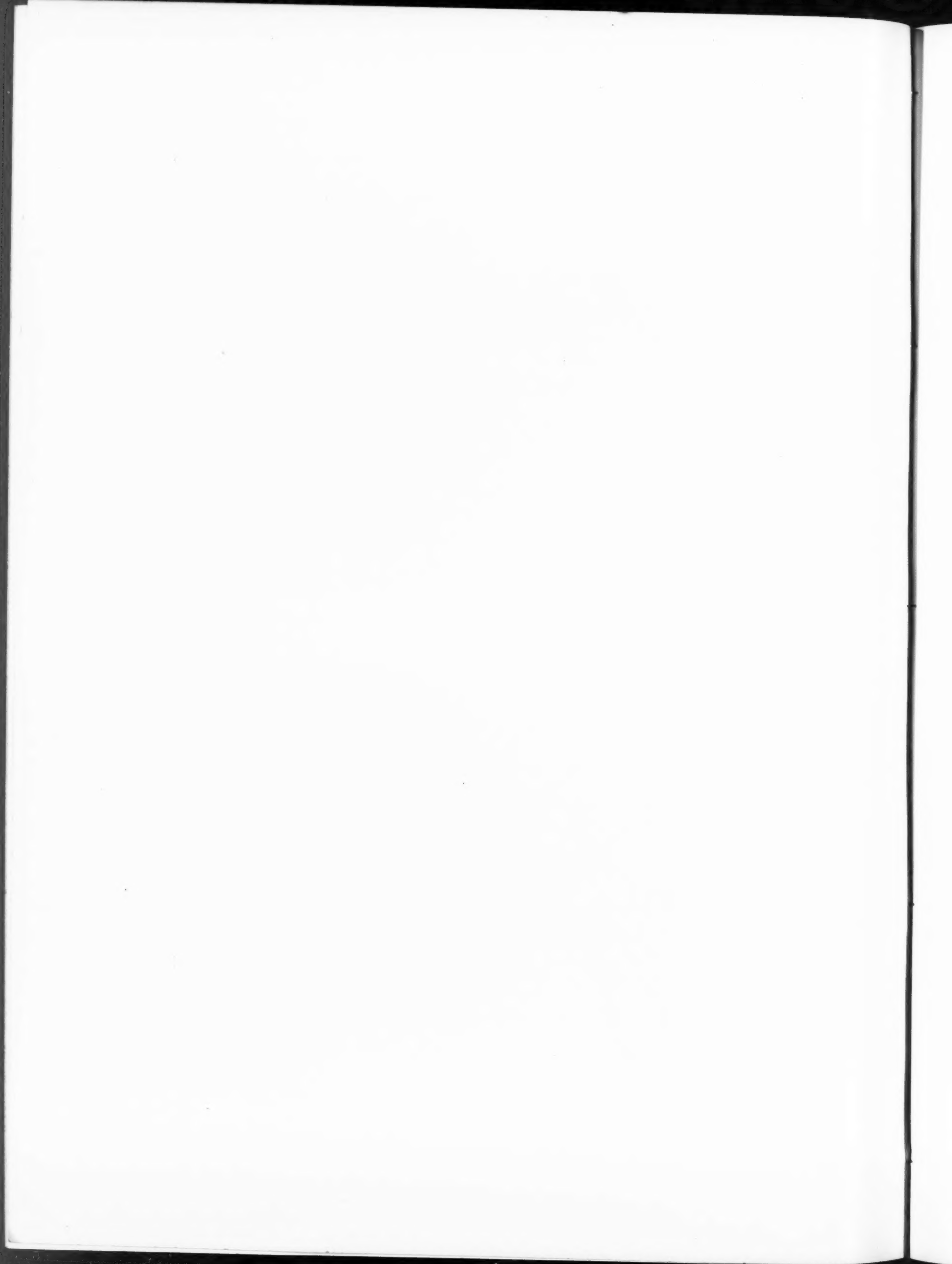


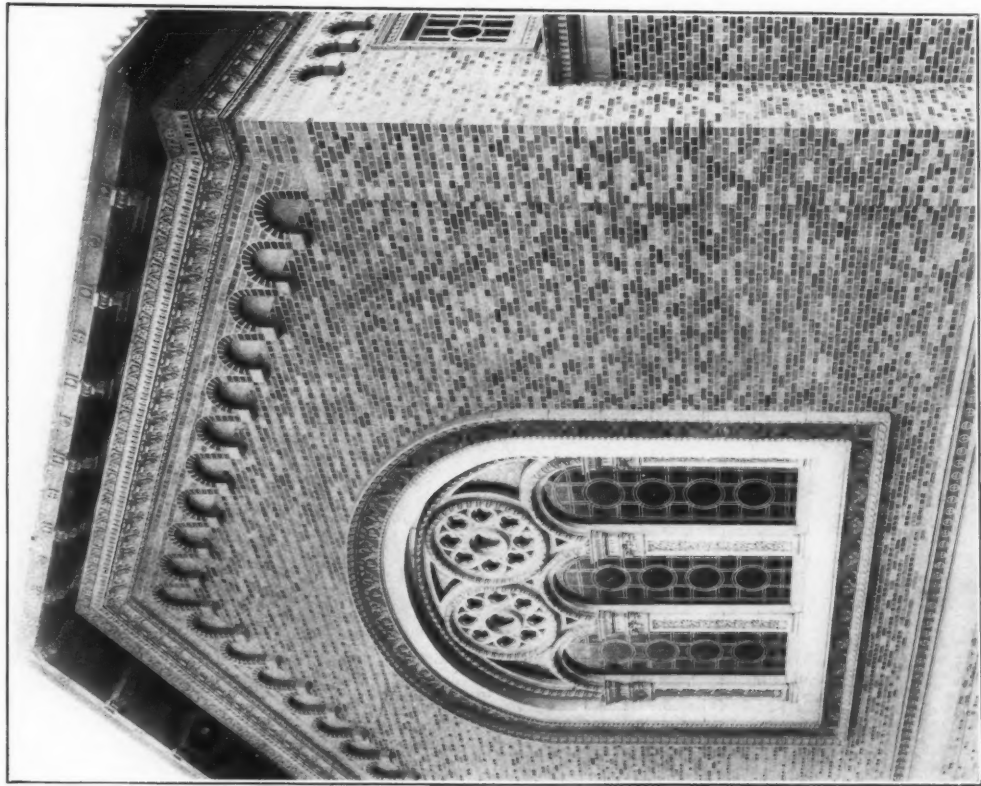
Detail Front Gable.

First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.

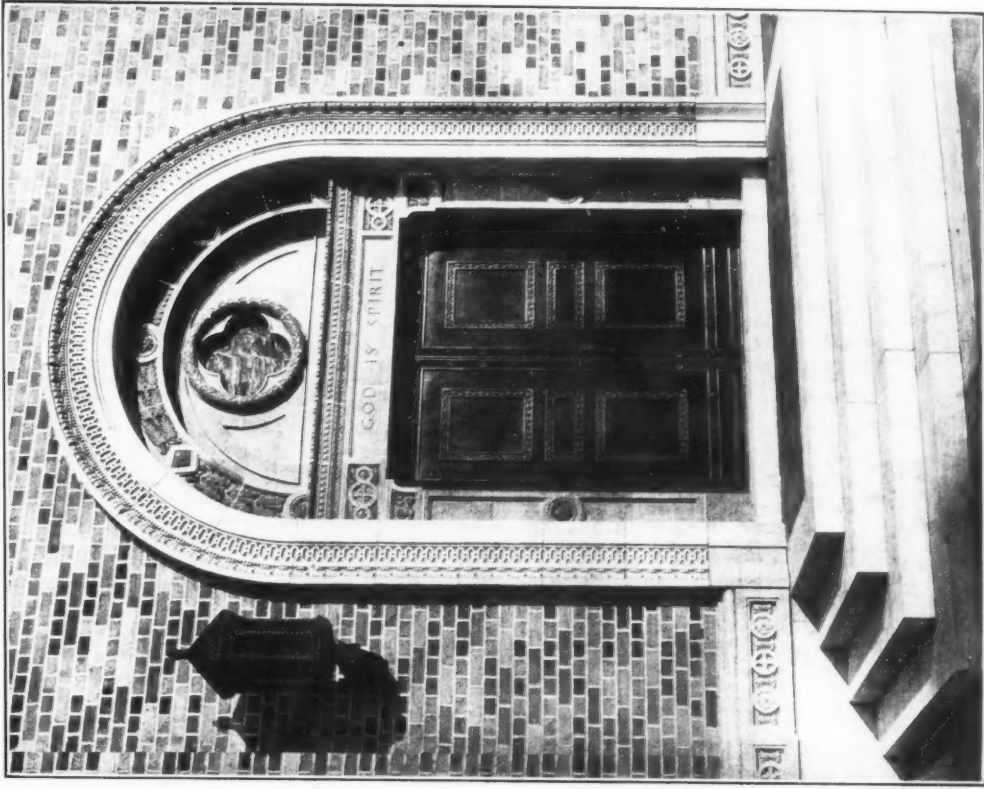


Detail of Tower.



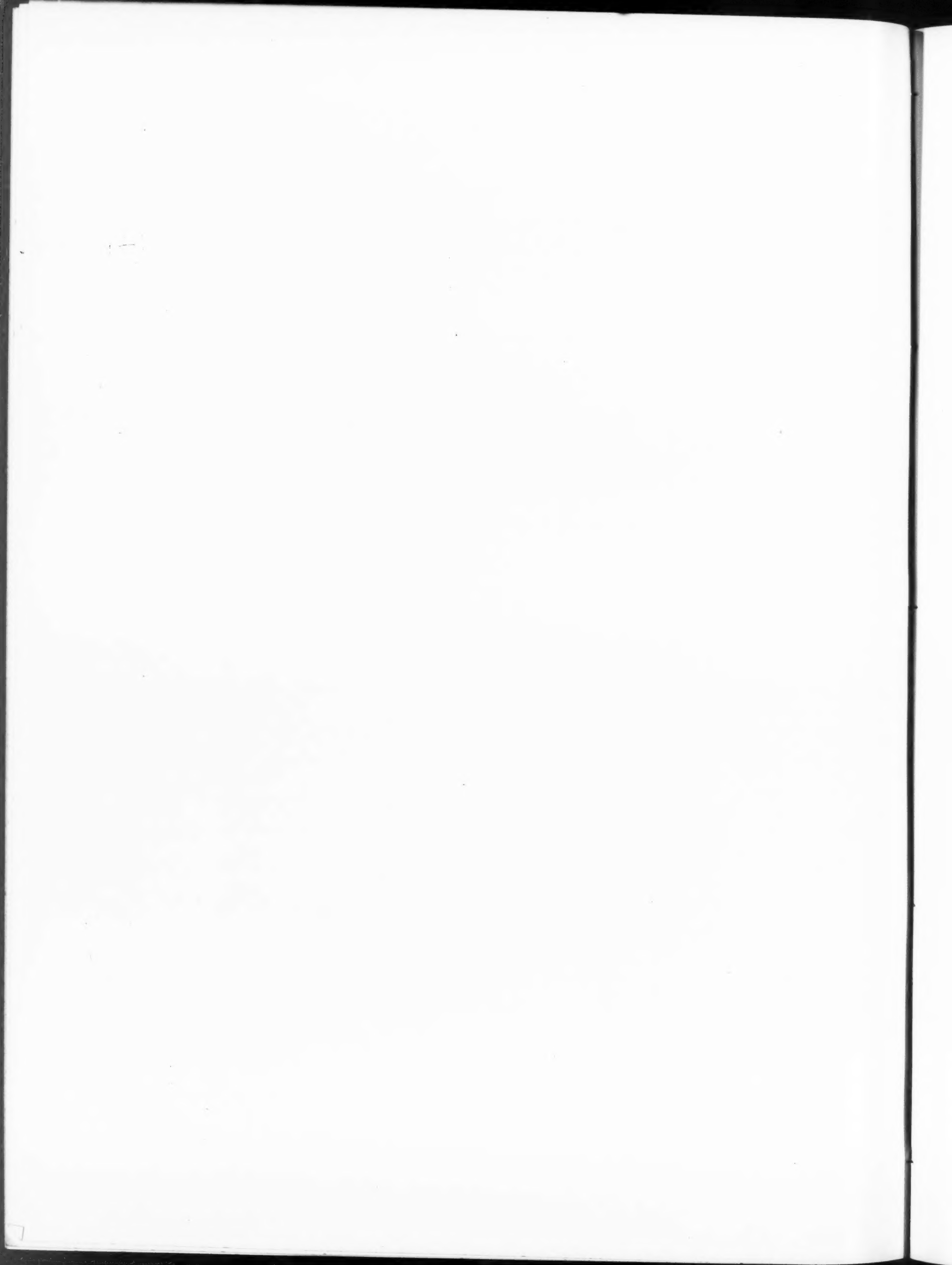


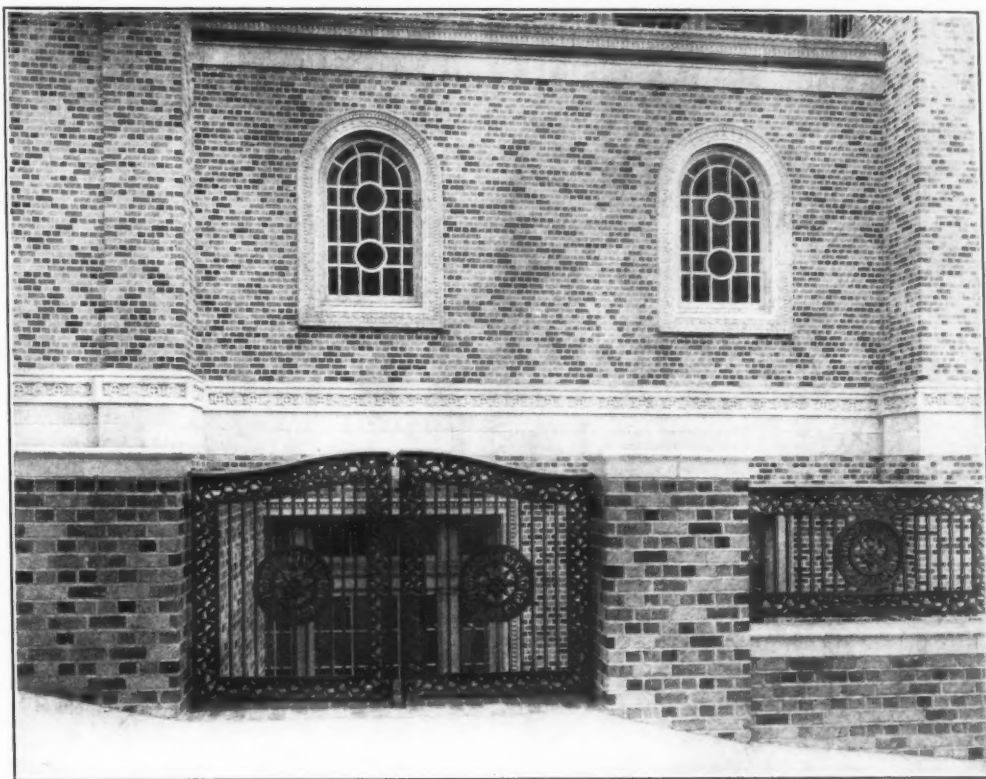
Detail Side Gable.



One of Four Entrances.

First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.

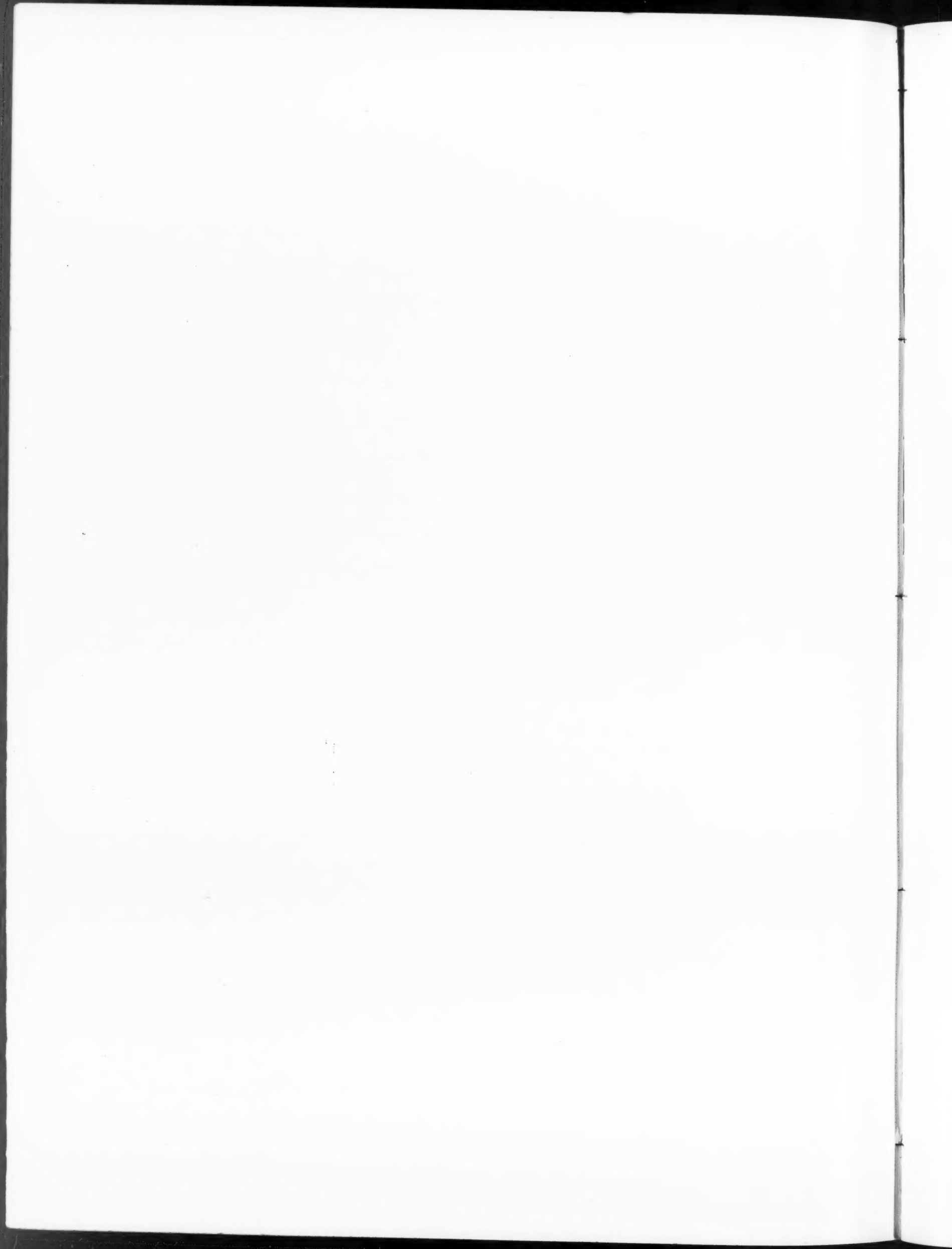




Detail Bronze Gates.

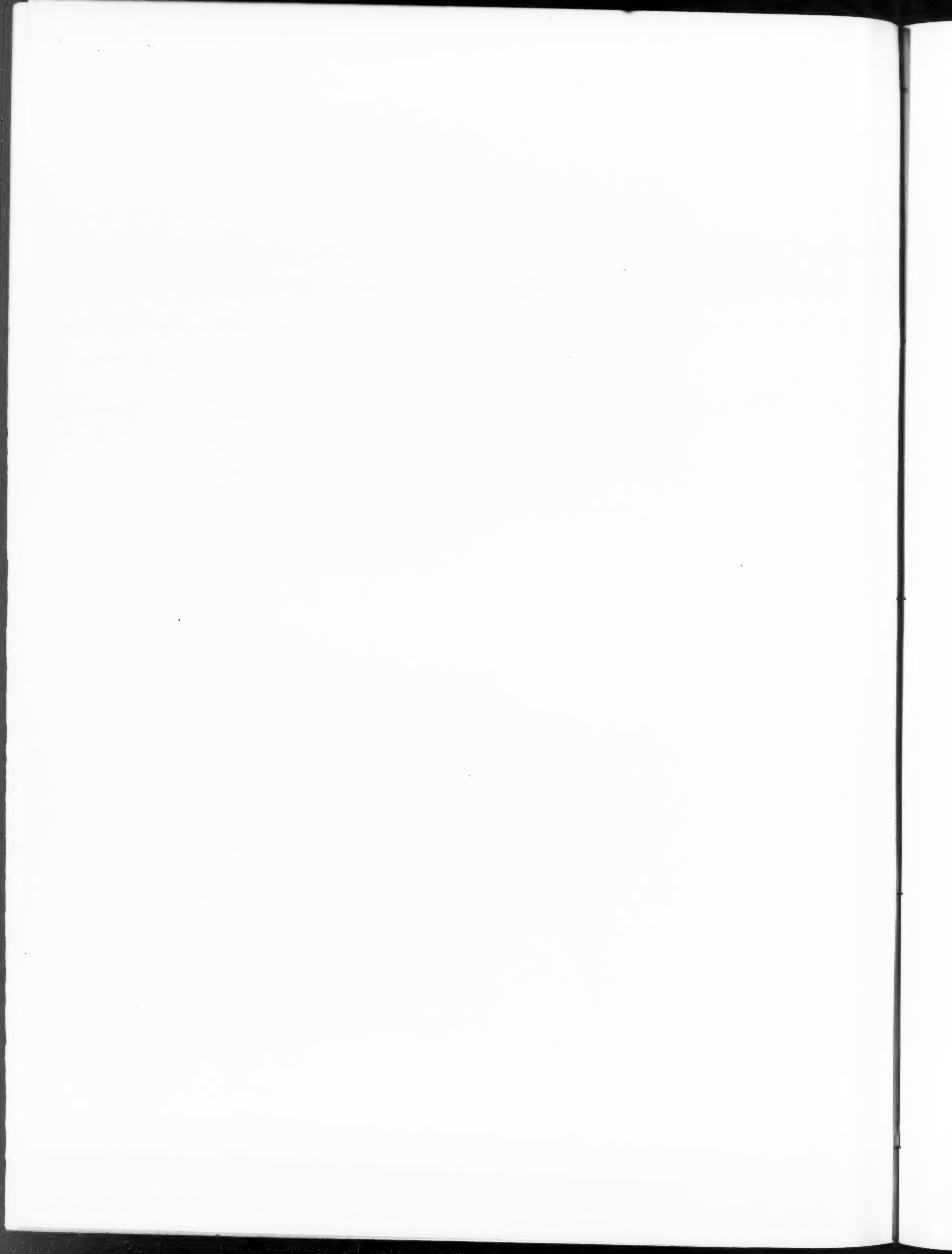


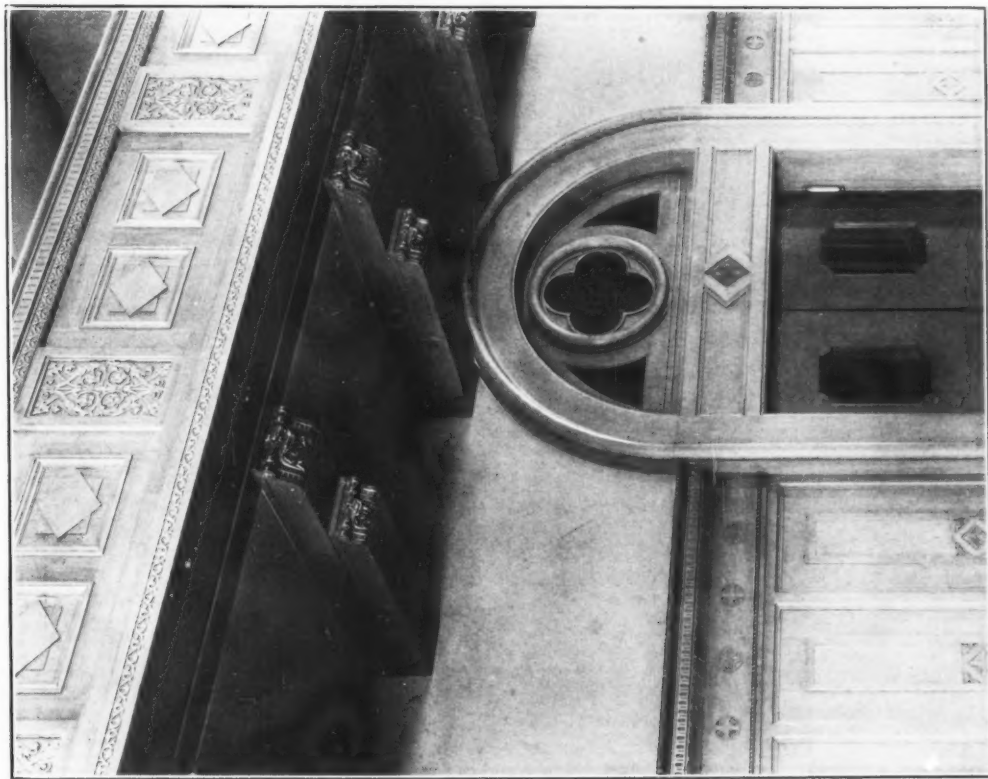
Main Vestibule,  
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.





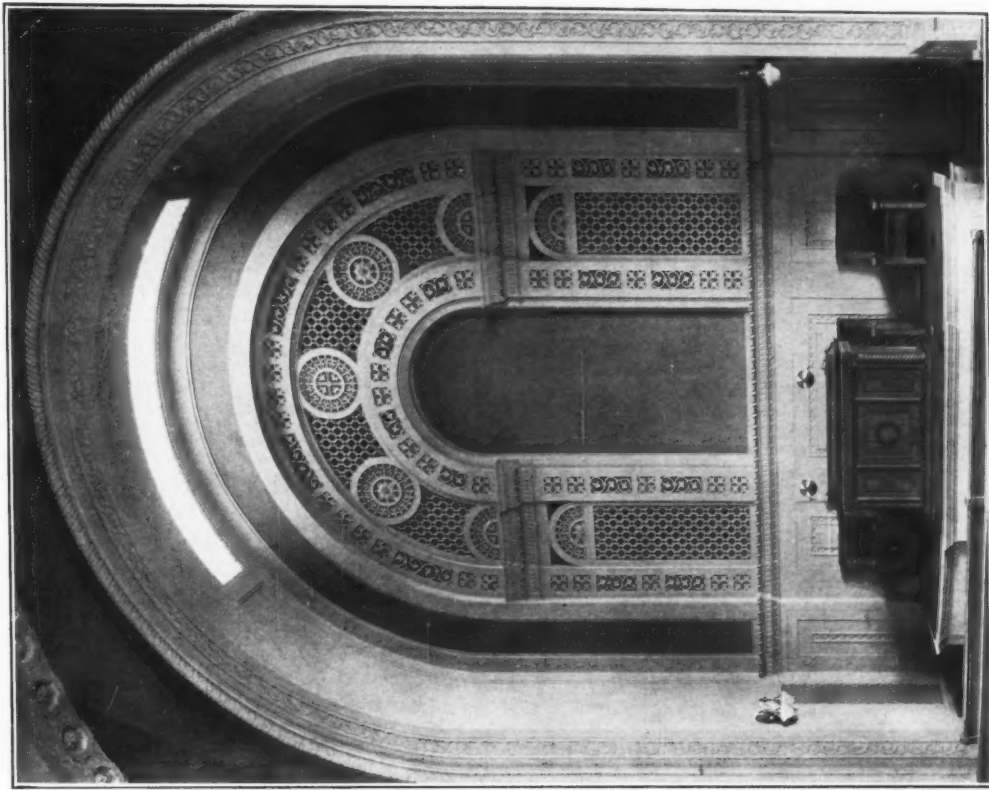
Interior,  
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.



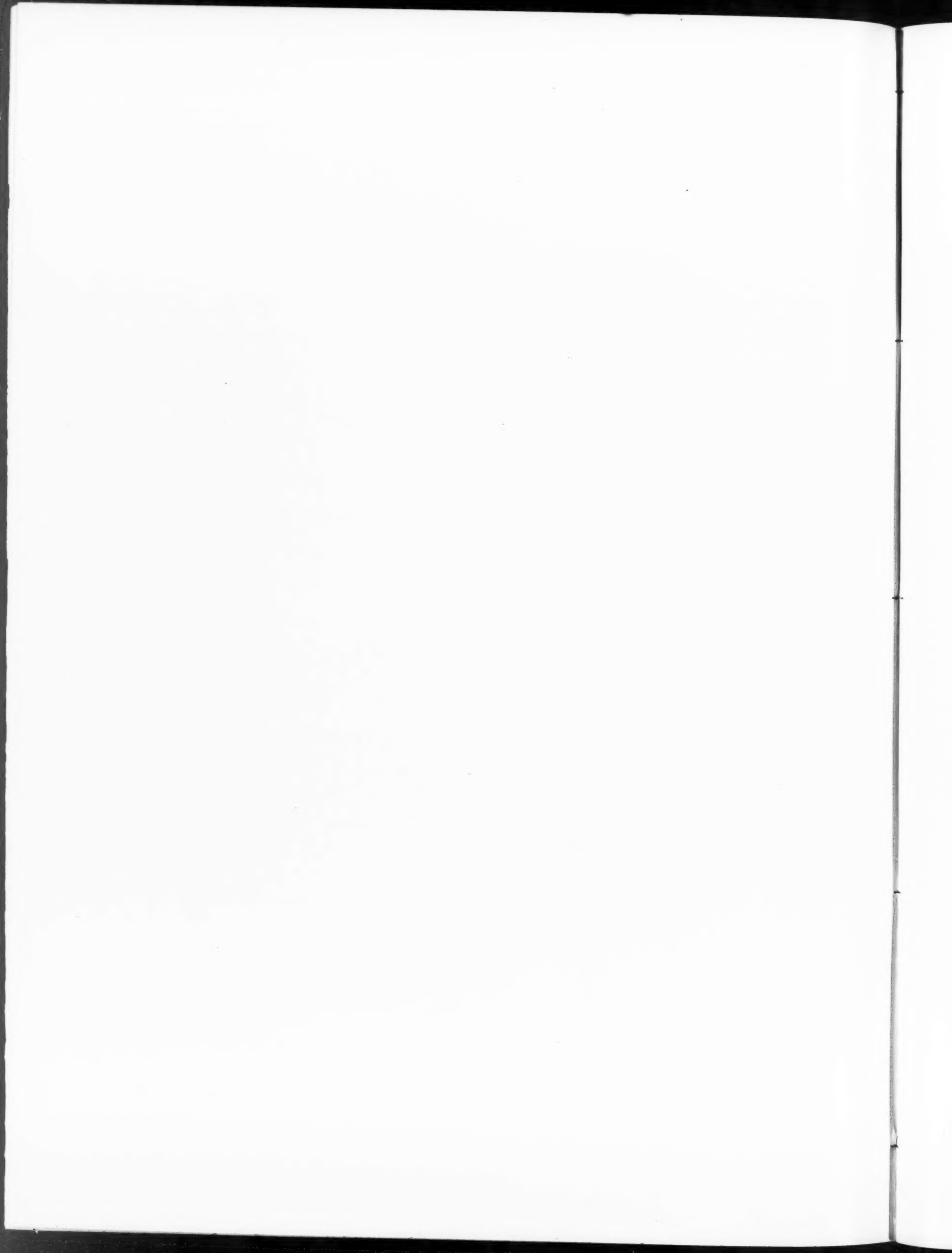


Detail, Gallery Projection Balcony.

First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.

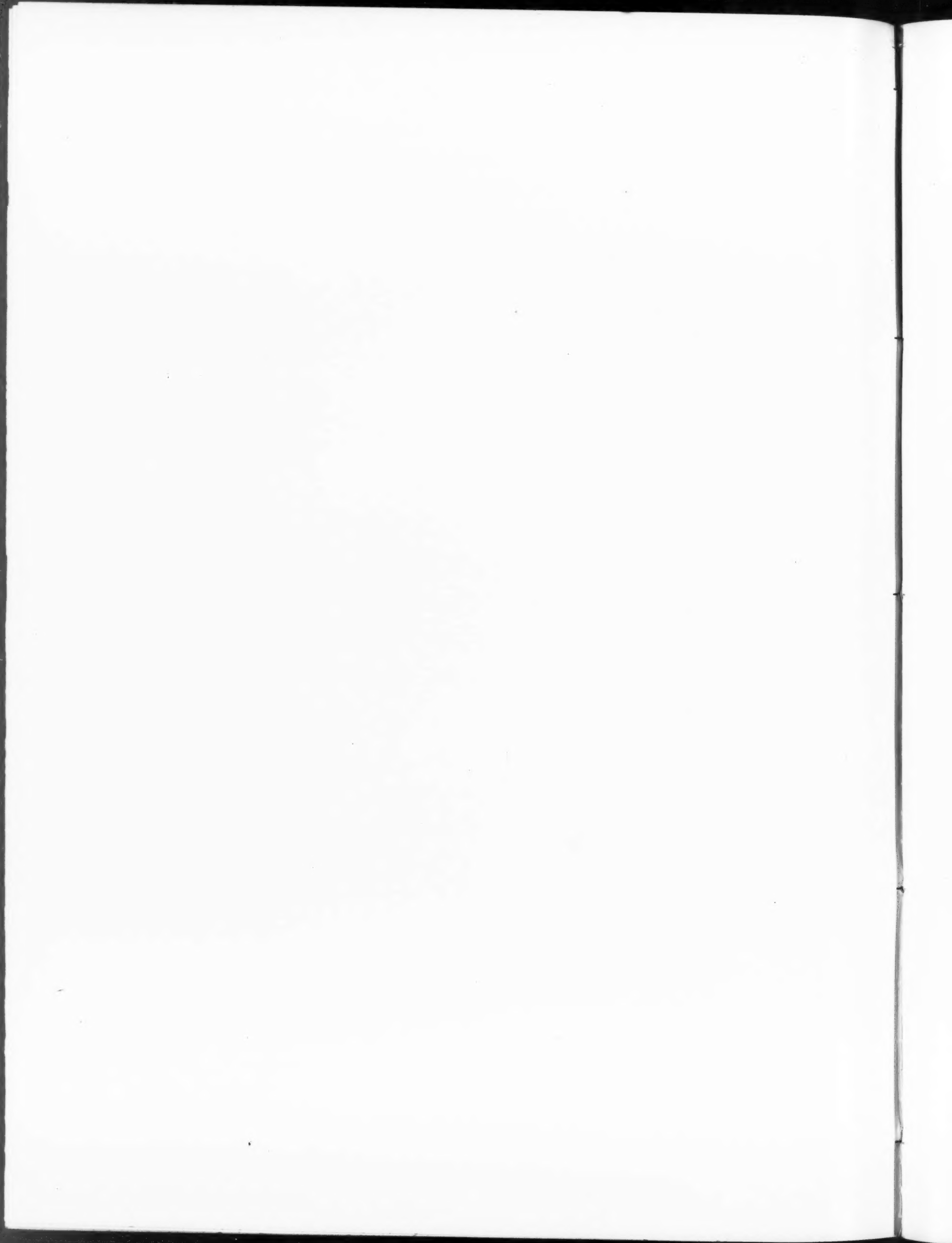


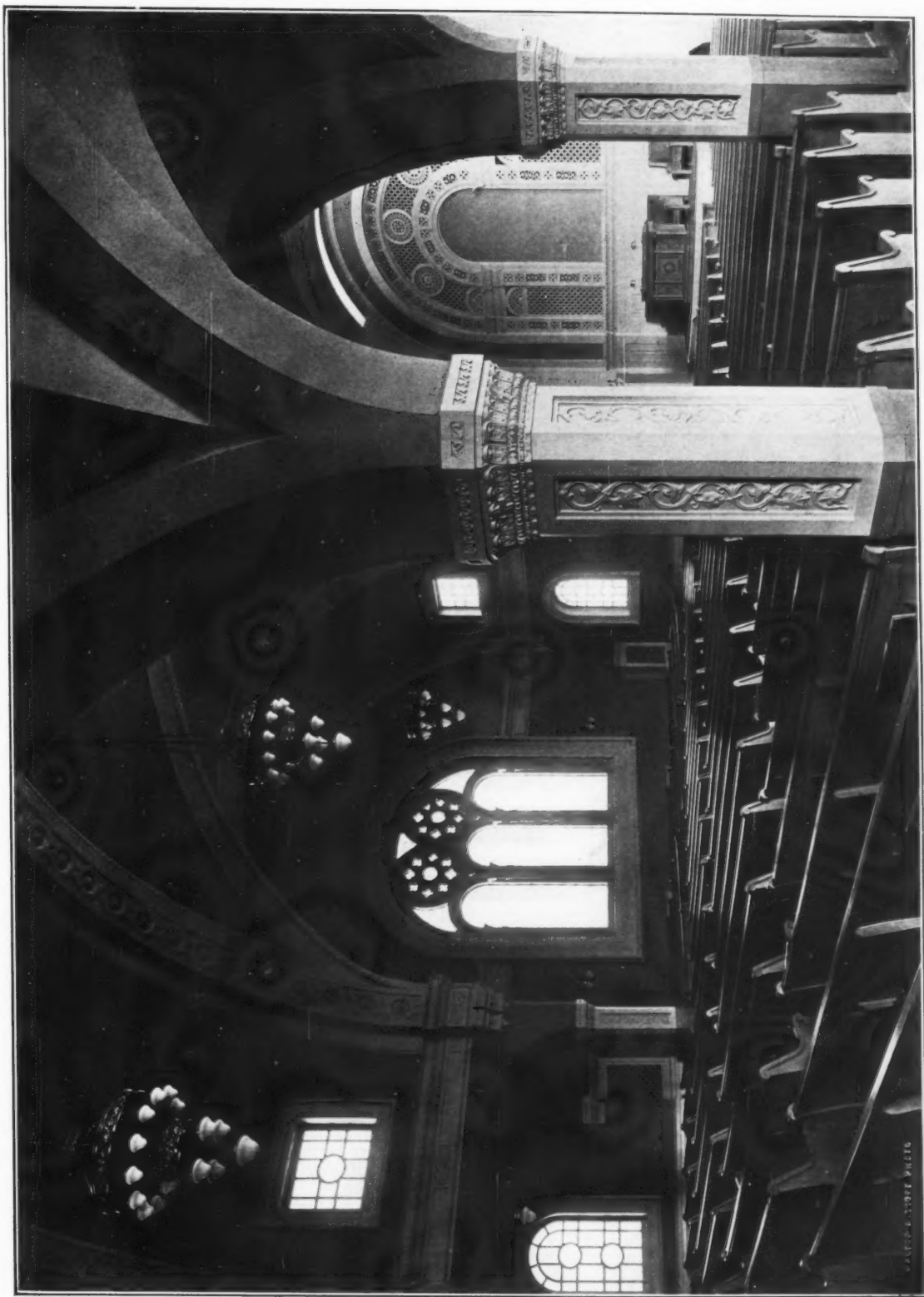
Organ Screen.





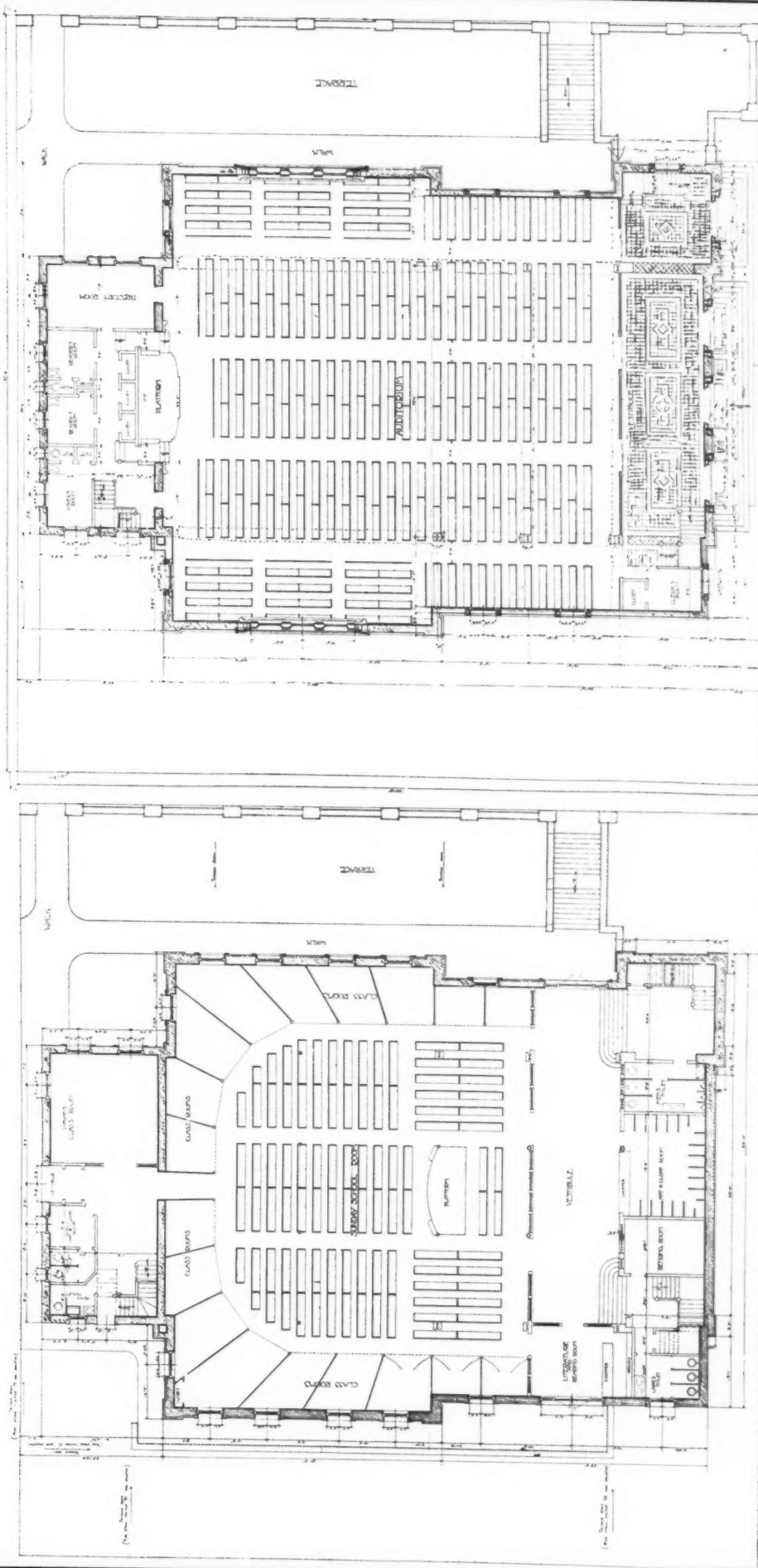
Interior,  
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.





Interior,  
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.





Floor Plans,  
First Church of Christ Scientist, San Francisco, Cal.  
Mr. Edgar A. Mathews, Architect.



### House Foundations

By Arthur C. Clausen.

The foundation, while the least seen of any part of the house, is a very important part of its construction. If the foundation should prove inadequate as to the size or quality of the materials of which it is made, allowing the building to settle, very bad effects result, and these are usually irreparable, except at great expense. There are well defined rules for figuring out the size of the foundation and the footing under it in proportion to the kind of soil on which the foundation rests and the weight of the building upon it.

The first thing to consider when determining the thickness of the walls or size of the footings is the kind of soil on which the footings are to be built. Bedrock is, of course, the very best kind of a foundation, but is seldom found near enough to the surface to be considered. Next to this sand and gravel in its native bed provides the best soil on which to build footings.

In excavating care should be taken that more sand is not removed than is needed, making it necessary to fill in under the foundation afterward with loose sand or gravel, for it is almost impossible, even with careful tamping and soaking with water, to pack down sand and gravel to as hard a bed as the native bed before it was disturbed.

While footings are not always put under walls for residence construction, the expense is so little that there is little reason for omitting them, and it is better to include them and be on the safe side. The footings for a frame residence need not be over twenty-four inches wide, or thirty inches for a two-story brick house. The thickness of the foundation wall varies according to the material of which it is made and the weight upon it. When the foundation is on clay care must be taken in a cold climate that the foundation walls go down below the frost, for if the frost gets under the footings, either during construction or after the house is built, there is no power on earth that will keep the clay from heaving the walls.

For this reason it is a good policy, when the building on top is light in weight, to excavate away from the building about two feet around the house and fill in with sand or gravel. With a full two-story house on top of the foundation or a brick house, this precaution is not necessary, the weight of the building holding the walls firmly in place and preventing the heaving of the clay against them from moving the walls. Sometimes clay is found to be porous, containing a large quantity of water. When this is the case the footings should be very much wider than under other conditions, the width depending upon the exact conditions found. The only way to build a foundation in a marshy place or on quicksand is to drive piles through it on to solid ground, make a reinforced concrete girder across the top of them, and then start the foundation.

Footings are nearly always made of concrete, since they can be made cheaper of this material than any other, and being in one continuous line, serve the purpose better than broken pieces of stone. The foundation walls are usually of concrete, stone or brick. If of concrete, the walls should be solid, and the cheapest way to build it is to pour the material into wooden forms. The studding and boards used in these forms can afterwards be used in the construction of the building. While eight-inch walls are sometimes used for foundations or bungalows, it is advisable to make them at least ten inches in thickness. For a two-story house twelve inches, and for solid brick or brick veneered houses sixteen inches, the same dimensions applying to brick foundations. Stone founda-

tions are a little more expensive than concrete foundations in most locations.

Where stone is immediately available and gravel is scarce, stone foundations, under these circumstances, would cost less. If the stone comes from the quarries in regular courses it makes the best wall. Such a wall can be made sixteen inches thick. If the wall is of rubble stone, or small, irregular, broken pieces of stone, the wall should be at least eighteen inches. In either case, cement mortar should be used, and the wall plastered with cement mortar on the outside when complete. When foundation walls are made of brick they also should be laid up in cement mortar, with a good coat of cement on the outside, and only good brick should be used.

The facing above the grade is an important factor in the appearance of the house. What the face should be determined in connection with the materials used for the balance of the house and its colors. Cement blocks are sometimes used above the grade in imitation of stone, although they should never be used below the grade unless they are filled up solid. Cement blocks, of course, do not give a correct imitation of stone, and should not be used with this intention. Concrete walls are sometimes used with a facing above grade of brick or stone veneer, the veneer being four inches thick, backed up with concrete to make the proper thickness of the walls.

Porch foundation should extend at least two and better three feet below grade in very cold climates in order to get below the frost. In any event the foundation for both main house or porch should be below the black dirt. When foundations are put on black dirt, the wall will settle.

♦ ♦ ♦

### New Armory Plans Will Be Prepared

That the Dominion Government intends losing no time in connection with the provision of the new armories for the Vancouver militia was shown when the firm of Perry & Fowler, Pacific Block, received instructions from the Department of Public Works, Ottawa, to proceed at once with the preparations of plans for the drill hall structure to be erected on the site recently purchased in Grandview for \$250,000 from Alderman McSpadden.

The instructions as received cover details providing accommodation for the Sixth Regiment, eight companies, the Eighteenth Field Ambulance and the Nineteenth Company, Canadian Army Service Corps, with an approximated cost of \$300,000. The work will be commenced at once and the architects expect to have it well under way in a short time.

The proposed new armories will have at least three exits, there will be armories and recreation rooms for each company and there will be mess rooms for each regiment. It is also probable that there will be miniature rifle ranges provided in the basement. The exact dimensions of the building and its interior arrangements will not be decided until after a survey of the grounds and discussion with the commanders of the different military units.

Mr. Perry is an officer in the Army Service Corps and now on duty at Nanaimo. He is a member of the Society of Architects of London, Eng., and also of the Vancouver Society. Mr. Fowler is on the retired list, having had 28 years of service, retiring as Major of the Third Welsh Regiment. He received the Victorian Decoration, Long Service Medal and St. George's Cross. He is a Fellow of the Royal Institute of British Architects and a member of the local society.

### **Illumination for 1915 Fair to Be the Most Wonderful Ever Attempted**

The illumination of the Panama-Pacific International Exposition will mark an epoch in the development of a rapidly progressing science. The effect of the illumination will be most striking.

When the evening falls myriads of lights will scintillate upon the exposition grounds, a thousand beams will flash from tower to tower.

As the visitor enters the exposition grounds after sunset he will seem to be walking in fairyland. Tens of thousands of cut-glass reflecting prisms, termed jewels, will be set in the great triumphal arch at the south entrance of the Court of the Sun and Stars. The huge tower surmounting this, lying directly before the visitor who comes through the main exposition gates, will be one of the most brilliantly illuminated features upon the grounds.

The jewels will reflect the light from searchlights placed upon the roofs of the exhibit palaces and will radiate the diffused light throughout the exposition grounds; they will hurl back the shafts of colored lights from batteries of searchlights moored in the harbor before the esplanade. They will shine and sparkle like a diadem of garnets, rubies, diamonds, emeralds and sapphires. They will be reflected in the crystal fountains, from which also shafts of iridescent light will pierce the falling streams, splashing in the mirrored lagoons like showers of flame from silvered anvils.

The distinguishing feature of the illumination will be that at night there will be no dark shadows; perfect reflections of whole buildings, with all the details of their facades, will be seen in the lagoons upon the grounds. Many millions of candle power will be utilized upon the grounds, and the chief zone of illumination will extend to a height of 125 feet, with a variation of but 5 per cent in the intensity of the light throughout this height. The result will be to bathe the Exposition in a great flood of light, not as brilliant as daylight, but presenting the effect of daylight.

There will be four principal sources of light upon the Exposition grounds, and the maximum of light efficiency will be obtained with the minimum of service and expenditure. These sources are: Illuminated arc standards, which will reflect light against the walls of the palaces and buildings, illuminated fountains in the great interior courts; concealed lights to be set within the columns of the encircling colonnades and within the arcades of the towers, and the lighting in the exhibit palaces.

In addition to these four principal sources of light, there will be two auxiliary sources. Upon the roofs of the exhibit palaces will be massed batteries of searchlights, while upon a pontoon, set out some distance from the harbor's edge, will be thirty-six 24-inch searchlights. The batteries upon the roofs of the exhibit palaces will not be visible, nor will their rays be seen passing through the general zone of the illumination, but their shafts of light falling upon thousands of quivering prisms suspended on the towers and turrets of the palaces will be reflected in all the colors of the rainbow. So perfectly and with such delicacy are these reflectors hung that the slightest wind will shake them. As the light strikes the different prisms color after color will be reflected. Encircling the great central court, the Court of the Sun and Stars, will be a colonnade crowned by hovering female figures symbolic of the stars. Each of these figures will support a star-like emblem, which at night will glitter with reflected light, but by day these stars will not be luminous.

The effect of the batteries of scintillators in the harbor will be marvelous. The batteries will go through evolutions of color, forming auroras in the sky and over the Exposition. On clear nights the shafts of light will be visible for forty or fifty miles. At night the visiting fleets will be brilliantly illuminated, and this will add to the superb illumination of the Exposition city itself.

The illuminated arc standards set throughout the grounds will reflect light upon the walls of the palaces and towers. The larger standards will be 55 feet in height and furnish from eight to ten thousand candle-power. Ornamental banners of canvas 8 feet across, and both rain and dust proof, will shade the lights and reflect a soft glow against the walls of the exhibit palaces.

The illuminated fountains in the great court of the Sun and Stars will present a phase of illumination entirely new, as far as Expositions are concerned. From the center of each of two fountains in the court will arise huge columns of dense white glass 70 feet in height and containing lamps of great candle power; from these fountains will issue a white but softly diffused light, which will penetrate to the furthest recess of the court.

The illumination of the facades and mural paintings will be attained by means of concealed lights placed in the backs of the columns of the colonnades. These, to a wonderful degree, will enhance the effect of the mural paintings, the execution of which is in the hands of a number of America's foremost artists. There will be no dark shadows behind the colonnades, except where a purplish shadow is artificially cast into the light for effect.

The lighting in the exhibit palaces will be carried out with the same degree of perfection. Dark shadows will never fall from the rafters of the buildings, as all the light will be reflected. Great ornamented chandeliers, 16 feet in diameter, will be suspended from the roofs of the exhibit palaces. These will necessarily give out direct light, but it will be soft and diffused, since the chandeliers correspond in principle to huge magic lanterns. At night lights shining through the windows of the exhibit palaces will make these great buildings seem full of life.

In its entirety, the illumination will present to night visitors the splendors of the architecture, sculpture, mural paintings and landscaping, so that each phase of the Exposition will lose none of the attractiveness of the daylight presentation. It is proposed to render the spectacle such a one as no man has ever before beheld, and throughout this gleaming fairyland there will be nothing bizarre or garish. The lighting will be as artistic as the painting, architecture, sculpture or landscaping.



### **Notice to Architects**

The Board of Supervisors of Kern county will receive plans and specifications up to 10 a. m. of October 7, 1913, for an absolute fireproof jail building to be erected at Bakersfield for Kern county. The building is to cost \$150,000. Plans must be submitted in conformity with the "Official Notice to Architects." The building is to be a two-story and basement structure and the site is 264 feet square. Plans, elevations and sections must be drawn to the scale of 8 feet to 1 inch and be executed in black and white only. A perspective may be submitted. Specifications must be completed, including plumbing, heating and ventilating. Second and third prizes in the sum of \$250 and \$125, respectively, are offered to the competing architects. Further information will be found in the Official Notice to Architects.

### Conveniences of Modern Kitchens

Ten years ago household equipment usually simply "happened." Men were engaged in perfecting farm and factory machinery, and systematizing the world's industries, and hadn't yet gotten around to providing suitable appliances for the little domestic "factory" which every housewife has running at home.

Nowadays the men who make things have turned their attention to providing the home and especially the kitchen with as efficient labor and time saving appliances and tools as an up-to-date factory can boast. The modern kitchen can be a thing of beauty and a joy even to the woman who works in it, so great have been the improvements made.

Take for instance, the evolution of the fireless cook stove, a miracle working contrivance which banishes heat, steam, smells, and standing over the stove watching the slow tedious cooking process.

Lined with seamless aluminum, rust-proof, tarnish-proof, and durable utensils to use with it, and a cunning contrived steam valve attachment which allows the roasting of meats and fowls, the baking of bread and pies, as well as boiling and stewing. It is indeed a wonderful convenience.

All that is necessary is to heat the soapstone radiators either on a gas or electric stove and lay them in the fireless cook stove. Then the food, meats, vegetables, or whatever is to be cooked—cooks just as it is, and it is forgotten until the clock says it should be done.

It probably isn't known that every branch and variety of the cooking art can be successfully employed with the fireless cook stove.

Indeed such a great variety of either substantial meals, or light delicate dainties for high-teas, etc., are possible, and that a series of lessons and recipes in fireless cookery is supplied by one manufacturer of fireless cook stoves.

But after all the real reason for their existence lies in the fact that the newer stoves do really mean farewell to the old method of cooking.

The earlier models of these cookers showed a very cumbersome box that took up a lot of space in a small kitchen, but they have now been reduced to occupy waste space, and some of the later designs show them swinging on hinges under the kitchen table, where they may be pushed out of sight and out of the way while the rest of the meal is being prepared.

One of the best equipments in which a fireless cooker has appeared is the latest design of a kitchen cabinet with fireless cooker attached. These cabinets have a wonderful array of step-saving equipment, and are designed to hold an exceptionally large supply of spices, coffee, flour, canned goods and other foods which are used in the natural course of events in the preparation of meals, also a large cupboard for kitchen utensils that occupies a minimum amount of space.

Another innovation for kitchen efficiency is a porcelain topped kitchen table of white porcelain with rounded corners and edges, which is seamless, unbreakable and unchipable, and at once becomes a moulding board for pie baking, or meat board or bread board, for cooking and slicing.

This is far superior to the old wooden table tops which became the "catch-all" for grease and other substances owing to the surface being scored from knife blades while preparing meals.

The best thing of all about a kitchen table of this kind is that it can be kept spotlessly clean—really hygienically clean—by wiping off with a hot wet cloth.

While these innovations are the most prominent improvements in kitchen efficiency that have appeared, a tour of inspection of any housefurnishing establishment will show a bewildering array of newly-thought-out tools and appliances, and many hundreds of little devices for the saving of time and effort.

♦ ♦ ♦

### Terra Cotta Works Visited by S. F. A. C.

On Saturday afternoon, August 16, 1913, the members of the San Francisco Architectural Club and their friends paid a visit to the factory and pottery of Messrs. N. Clark & Sons in Alameda.

It is the desire of the club this year to visit a number of the works of large industrial concerns with a view to familiarizing its members with the processes of manufacture of the various materials connected and allied with the building trades. Knowing of this desire, Messrs. N. Clark & Sons extended invitations to the members to visit their works.

About 150 gentlemen accepted and were met at the Ferry Building by Mr. Gwynn, the firm's manager, who escorted the members across the bay to Alameda. A special Southern Pacific Company car was reserved for the club and thence run right into the works. Arrived there, the party was welcomed by Mr. A. V. Clark and Mr. Phillips, the works manager. Before inspecting the various departments connected with the making of architectural terra cotta and other clay products, the members were gathered together in the drafting department where an interesting lecture was given by Mr. Phillips and practical methods of the various stages of manufacture of architectural terra cotta were demonstrated by several of the employees of the firm.

Afterwards they dispersed for a couple of hours throughout the various buildings and viewed the plant and machinery.

The party was thereafter hospitably entertained by the firm. After spending a pleasant two and a half hours the company returned to the city.

Before leaving the works, the president of the club, Mr. Harry E. Nye, made a few appropriate remarks and extended to Messrs. N. Clark & Sons a hearty vote of thanks for the opportunity given to inspect the works and for the instructive and entertaining afternoon which everyone thoroughly enjoyed.

♦ ♦ ♦

### Many Conveniences in Modern Homes

Adam Int-Hout, Chicago chemist, has a folding bungalow, 26 feet square, with a living porch 8x10 feet, and a wide entrance porch. It stands in the middle of a 50-foot lot. The house is divided into living room, kitchen, bathroom, downstairs bedroom and furnace closet. After a guest has been welcomed into the living room, the hostess excuses herself—there is no maid. The visitor notices the stairway next the entrance door and a balustrade forming book shelves running to the floor. Adjoining is a closet for outdoor wraps and an attractive grill extending from the floor to the ceiling in the middle of the long wall space that forms part of the back part of the living room. The hostess enters and hooks the kitchen door back. By touching the wall the hostess causes it to turn around into the kitchen, revealing on the side that turns in a hanging china cabinet and a massive dining table all set. The table, with a slight push, slides into the middle of the room. The last course comes from a shelf under the china cabinet. The table is set back in the kitchen by reversing the operation.

The house is heated by a school furnace set in the closet in the center of the house. There is a two-foot space back of the furnace between the kitchen and bathroom. Here are the gas meter, water meter, medicine chest for the bathroom and a chute built to answer for a stationary coal closet. It holds two tons and has the outside window high enough so that the coal may be thrown into it directly from the wagon. The slope is adjusted so the coal falls to the door of the chute, which is directly opposite the door of the furnace. All there is to do is to take out a shovelful as one would from a coal box.

A revolving dust pan is another feature of the furnace.

The kitchen has a stationary laundry tub of porcelain, the top of which forms the drip board of the sink. In the back wall is a kitchen cabinet, with drawers and swinging doors in the lower part and shelves with glass doors in the upper part. As this cabinet is built into the back wall it would curtail the light ordinarily. This is avoided by making both the front and the back of glass, an arrangement which not only lets the light through, but also cuts down the heat, as it is only necessary to open one of the small outside panes to make the cabinet into a cooler.

There is an upper room 15½ feet square, with north and south glass doors opening on sleeping porches, thus making it cool and totally unlike the ordinary attic room.

This folding bungalow cost about \$2,000 and was completed in six weeks. The outside wall is of stucco set on a foundation of concrete.

◆ ◆ ◆

### Concerning Sleeping Porches

"Of course you will have a sleeping porch."

That is a remark which one sometimes hears when mention of a new house is made.

And in many cases the builder is interested in this new idea.

The sleeping porch may be a fad, but it looks very much like a fixture. In some of the suburban communities there are houses specially designed to accommodate sleeping porches and those who live within are not by any means tubercular.

A sleeping porch is a provision for sleeping outdoors in summer at least, and not a few open-air devotees cling to their outdoor sleeping quarters throughout the twelve months; from January to December.

The simplest method of constructing a real sleeping porch in a new house of modest proportions is to construct a generous dormer in the roof on the sheltered side, leaving it entirely open at the front except to a point about two feet above the floor, to which height it should be boarded up. In this way a room of adequate size is formed, without drafts, and requiring only a curtain in front to secure privacy.

A good plan is to shingle the roof and sides and to lay a heavy grade of prepared canvas on the floor. This roofing and deck canvas is waterproof, so strong that it may be walked on freely, comes in widths of thirty and thirty-six inches, is lapped an inch and a half when it is put down, and it is fastened with tacks not more than an inch apart. It is best to give it a coat of paint at once and to keep it painted at intervals throughout the year. Make provision for draining off water which will surely be driven in when hard storms come.

### The Modern Window.

Until recently windows have lagged behind in the march of progress. Nearly every feature in building construction has kept pace with modern demands excepting windows. We see exactly the same type of window in houses built yesterday as were used forty years ago.

No house can be properly ventilated with such type of windows. Poor ventilation has been a reproach to our civilization. The home builder has been waiting for a window that would give him and his household healthful ventilation regardless of weather conditions, and that would lift some of the burden of housekeeping off the shoulders of his women folks.

With employers' liability laws growing stricter each year, and with the cost of labor mounting higher, landlords are demanding a window that can be cleaned entirely from inside without danger of accidents—and cleaned quickly and easily.

The Architect has thus been very seriously handicapped in the treatment of his design by reason of the narrow limitations of the old style double hung and casement windows.

All this is now changed by the introduction on this market of the Simplex Window, which allows the architect the fullest scope in the treatment of window openings, there being absolutely no limit to the size of the opening, the number of sashes to the opening, nor the manner of treating the sashes as to their sizes, etc.

In addition to the fullest freedom and latitude allowed the designer in the treatment of his design the Simplex Window sash can be cleaned from inside of the room, eliminating all danger to the cleaner; and the work can be done in one-quarter the time required with the old style window. Thus owners and tenants are spared much expense in labor and all risk of employees falling from window ledges is done away with.

The sashes of the Simplex window can be easily adjusted to give perfect ventilation in any kind of weather.



They can be perfectly screened and shaded because in operating no part of the sash projects into the room. It is simple in construction and has no mechanism that can get out of order. It is weather and burglar proof.

The Simplex Windows do not use weights nor cords in their construction.

Although but little over a year old the Simplex Window is now specified and used by the leading architects of the coast, as will be noted by the following partial list of large buildings which are fully equipped with Simplex Windows: Standard Oil Bldg., Realty Rebuilding Co.'s Bldg., San Christiana Co.'s Bldg., Heald's Business College, Mackenzie Apts., Hogrefe Apts., Buckley Apts., Starr King School, Woodland High School, Beck Hotel, B. Leibes residence, N. B. Livermore residence, F. Suhr residence, 20 schools in Oakland, 2 schools in Richmond, 3 schools in Stockton, 60 portable schools, 20 schools scattered throughout the country.

This article would be too long if it were attempted to give even a partial list of small residences, flats, apartment houses and hotels using the Simplex Windows.

In brick and concrete buildings Simplex Windows cost no more than old style windows hung with weights and cords. It is the only modern, perfect window. Made in metal, also wood. Underwriters label secured.

Architects should send for descriptive circulars, details, etc., from the company, whose offices are in the Underwood Building, 525 Market street, San Francisco.

In closing, a word as to the responsibility of the Simplex Window Company would not be out of order. Our readers are assured of the fact that this company is financed by men of wealth, power and influence, and that the Simplex Window Company is a permanent factor in the building world.

♦ ♦ ♦

### Appropriate Hardware

The selection of the finished hardware for a building is too frequently left to chance, the discretion of the contractor or the nondescript collection which may be found in the average hardware store. As a rule the owner of a fine building is anxious to secure something distinctive in the way of design for his house. He pays for special selected hardwood doors; he spends time, thought and money on the lighting fixtures; but too frequently he puts up with almost anything in the way of locks, escutcheons, knobs and other hardware which is just as prominent as the doors or windows. A little care in selection and a little time spent in ordering would have secured, at probably no greater expense, hardware which would have harmonized with the woodwork, fittings and other decorations and would have been a source of pride to the owner, contractor and architect.

♦ ♦ ♦

The Italian Archaeological Mission has recently discovered at Cortina, in Crete, a temple to Egyptian divinities. In the interior of the cell in the building were found statues of Jupiter, Serapis, Isis, and Mercury, also fragments of a colossal statue of a woman and the bust of a woman. All are in marble. Several small terra cotta statues were also found, and a flight of steps leading to a subterranean pool where religious ceremonies of purification used to be celebrated. The Mission has found in the interior of the island a large number of hitherto unpublished epigraphic texts.

### The Results of Co-Operation.

While the Pacific Coast Architect in this current issue has endeavored to illustrate the notable edifice of the First Church of Christ, Scientist, with a descriptive article, it is gratifying to us to mention an interview that we purposely obtained with N. Clark & Sons, the manufacturers of the architectural terra cotta face brick and glazed roofing tile, which are so dexteriously used throughout the exterior of this building, our object being to know more of the co-operation which so manifested itself in this work.

Paradoxical as it may appear to many, we learned that the distinctiveness and success of this building lies in the fact that it was not carried out as per specifications. The work from start to finish was rather a whole hearted endeavor to follow the architect's details and drawings and to crystallize his feelings in clay.

It would be difficult to find a building anywhere in which so much pains were taken with the architectural trifles of the building, trifles which go to make perfection. Every little detail has a spirit and meaning all its own. Whether the ornamentation is taken separately or collectively, there is always harmony delicate yet clearly defined in its relationship to the brick. A glance at the work shows an artistic rendering of the clay worker's art from the street line to the roof ridge. The interesting features of the work lie not only in taking advantage of the plasticity of the materials involved to create proportionate lines and beautiful ornament, but also in mutely testifying to the spirit of the times and the expressing of the architect's feelings as was the custom of early architects.

Coming to the question of color. This is always an alluring attraction to all architects and designers. Perhaps the happiest feature is the restraint here shown. There has been no venturing but rather a yielding to the interests of the building with splendid results.

Not only is the polychrome work beautiful in itself, but it revives the public interest in buildings. The attention of the man in the street is drawn and fixed and he feels that after all there is something more in building than piling up masses of brick and masonry. He learns that brick and terra cotta make beautiful building materials. The architect knows that they fulfill his highest requirements where combinations of distinctive or native colors are being sought. By native colors we mean the colors of the materials themselves apart from any definite color scheme obtained by the use of polychrome work. The perfection of the polychrome as here shown has attracted the attention of experts and the highest praise has been bestowed. Equal care was exercised in every department of the firm and the result is perfect terra cotta, straight, durable, uniform in color and artistic in form.

The firm was untiring in its efforts to please and such methods added to quality and promptness are the features that have made its reputation and secured for it a large place in the ever growing market for architectural terra cotta on the Pacific Coast and in the Western States.

♦ ♦ ♦

### Heating Dwellings by Electricity

The city of Seattle has recently made provision for heating dwelling houses by installing electric heating coils under the hot water boilers and individual radiators in the houses of those who order the service. The heaters are automatically controlled by a device which cuts off the current when the heat reaches the desired degree and turns it on again when the temperature falls below a certain degree. It is said that these heaters provide a satisfactory amount of heat at a less cost than coal.

### Mohrlite Fixtures—and the Reason

When indirect illumination was first introduced, it fell short of the desired results because of the general conditions encountered. Unless the ceiling and side walls were of the proper light shades, the cost per candlepower was prohibitive; therefore indirect lighting was only possible under very favorable conditions.

With the Mohrlite system, any decorative color scheme may be carried out without any fear as to the amount of light absorbed, and, therefore, lessened illumination.

is harmful; on the contrary, it is less harmful and far less fatiguing than the irregular use of the eyes under changing lights.

Artificial light requires a much more careful use than the sunlight. The latter has been filtered through many miles of air before finding its way down to the earth's surface. In this filtering process many of the more harmful rays of light are removed. Until the advent of the Mohrlite, the rays of artificial light struck the eyes only a few feet from their source. The extreme rays which lie at either end of that scale which is best seen in the rainbow—the rays outside the red of the rainbow



Designed by Earle B. Burtz.

TOWNSEND CANDY STORE—RECENT INSTALLATION.

The scientific construction of the Mohrlite is the result of years of study and trials, under every imaginable condition, until today it makes its appearance, heralded as the "perfect light," and one which will revolutionize artificial lighting. A light of efficiency, with absolute ocular comfort.

Since the introduction of electric lighting, the eyesight of the human race has deteriorated astoundingly. Thirty years ago, for a man to appear in public wearing glasses would subject him to remarks not pleasant, but today fully thirty per cent of the inhabitants of the civilized world wear them. These facts made us think, and the more we thought the more we realized that the present-day artificial lighting was to blame.

We turned to nature and studied her light, and found that the eyes were exposed to reduced intensities of very diffuse light. This, then, was the problem. How to apply these essential characteristics to artificial conditions of modern life. The result was Mohrlite.

A very large proportion of the "tired feeling" so pronounced in city life, and which differs widely from the weariness resulting from a day in the country, is due to the muscle strain in the eyes. It is a great mistake to suppose that the steady use of the eyes under proper light

and the rays inside the blue (known as the infra-red and the ultra-violet)—are very injurious, and it is these that hurt our eyes in direct artificial lighting.

Too strong a glare does not increase brilliancy, but lessens it. If an illumination be too bright, it cannot be seen at all, as, for instance, looking at the sun, there is a certain pitch beyond which light not only ceases to be real illumination, but in which it defeats its own purpose by tiring the optic nerve. The best lighting is that which produces the utmost clearness without straining the sight, and this can only be obtained through reflected light when the source of reflected light is hung high out of the range of vision.

The Mohrlite is installed high, well out of the field of vision; its reflecting surface is constructed so as to spread the light evenly throughout, except that a greater intensity is downward. Under this method the light emitted is in such a direction that it cannot directly enter the eye.

The Mohrlite can be made to serve any and all conditions, and the design of the fixture can be carried out to suit the taste of the most fastidious. It is the only lighting fixture in which the architect or builder can carry out his interior decorations.



With the coming of the Mohrlite, the problem of correct lighting of art galleries has been solved. It is impossible to describe in print what a beautiful light it gives for this very purpose; the evenness of the light is such that paintings are seen in their true value, from any point of view. And last, but not least, the Mohrlite glow is the one and only reflecting compound to which an original color can be given. With various colors (or in combination) many hued lighting effects, mingled in perfect unison (like the rainbow) can be accomplished with this glow.

♦ ♦ ♦

### Triumph for Tin Roofing

St. Ignatius Church, San Francisco, was covered with 300 boxes of 14x20 Target and Arrow roofing tin manufactured by N. & G. Taylor Company, Philadelphia. The selection of good tin for roofing this handsome church edifice, the finest of its kind west of the Rockies, is one more proof of the high reputation their tin enjoys.

♦ ♦ ♦

### Personals

Architect Alexander Doctor of Vancouver, B. C., was a recent visitor in San Francisco.

Alfred Kuhn, with Loring P. Rixford, has returned from an extended vacation spent in the East.

Architect H. M. Bamfield, Pasadena, Cal., has moved his office to room 311 Kendall Building.

Thomas Schultz, formerly of Chicago, is now associated with Thomas & Schneider, art glass manufacturers, 607 Howard street.

Architect A. J. Moe has opened an office over the Folly Theatre, Eugene, Oregon. Mr. Moe was formerly located in Chicago.

Architect R. E. Borhek, with offices in the Savage Schofield Building, Tacoma, Wash., has returned from a vacation spent in the mountains adjacent to Tacoma.

Atholl McBean, Secretary of Gladding, McBean & Co., has returned from a four weeks' motoring trip through Northern California.

E. J. Baum, for the past year with Architect W. W. Bosworth, New York City, is a visitor in San Francisco.

J. W. Hooker, with the Thomas Day Company, has returned, after spending a two weeks' vacation at Guerneville.

Architect Frederick Heinlein has moved his office from San Francisco to room 517 Lissner Building, Los Angeles.

Architect A. M. Edelman, Los Angeles, has returned from a three weeks' vacation spent at Santa Barbara, San Francisco and Lake Tahoe.

Architect S. Tilden Norton, Los Angeles, has returned from a trip to Seattle, Vancouver, Skagway and other Northwestern cities.

Architect W. J. Whiteway, Vancouver, B. C., has moved his office from the Molson Bank Building to the World Building.

Allen Strowd Company, Limited, Vancouver, B. C., have moved their office from the Welton Building to the Lee Block.

Architects Sharp & Thompson, Vancouver, B. C., have moved their office from 536 Hastings street to 301 London Building.

Carl O. Andresen, in the paint and color department of W. P. Fuller & Co., has returned from a two weeks' vacation spent at Hilton.

R. J. Davis, president of the Van Emon Elevator Company, San Francisco, was a recent visitor to Portland, Ore., on business.

K. G. Lundstrom, for many years located in Portland, Oregon, in the general contracting business, is now located at 542 Seventh avenue, San Francisco.

Architect S. A. Johnson, formerly of Fresno, Cal., expects soon to open an office in San Francisco.

Architect Charles J. Rousseau has moved his office from the Phelan Building to the Maskey Building, 46 Kearny street.

Architects Fabre & Bearwald have moved their office from 903 Merchants' National Bank Building to 1303 and 1304, same building.

Architect Harvey Partridge Smith, 232 Blake block, Oakland, Cal., has returned from an extended trip east.

The Van Emon Elevator Company, 48-56 Natoma street, have thoroughly remodelled and enlarged their office so they will be able to take care of their increasing business.

Architect A. L. Haley, formerly of Los Angeles, has bought an interest in the Peerless Manufacturing Company, San Francisco manufacturers of cement laundry trays.

George P. Eisman has purchased Mr. Cook's interests in the Van Waters-Cook Manufacturing Company, Portland, Oregon, manufacturers of the Hester System of store front construction, which is strictly a coast product.

N. Clark & Sons, 116 Natoma street, will furnish the Matt Glaze Terra Cotta for the Warrington and Belle Gravia Apartments. Frederick H. Meyer, architect, and the face brick for the new Polytechnic High School.

N. A. Scharren, head of the Scharren-Blair Company, Portland, Oregon, marble and granite manufacturers, has returned from a tour of Germany, his native country, which he had not seen for many years.

S. B. Cooke, 422 Failing Building, Portland, Oregon, has the agency for the United States and Canada for the Universal Bed Company, which manufactures in Portland a disappearing bed, under patents to F. J. Crouch.

Architect E. E. Young, with offices at 251 Kearny street, has returned from spending a month's vacation at his country home in Redwood Canyon.

Charles W. Heal, the genial representative for the J. D. Tresham Manufacturing Company of Portland, Oregon, was a recent visitor in San Francisco. Mr. Heal is touring California in his "Pierce Arrow."

The Western Asbestos Magnesia Company, 25 South Park street, has received an order from the U. S. Government for 26,000 square feet of Carey's magnesia flexible cement roofing to cover the mess and drill hall at Angel Island.

Thomas & Scheider, 607 Howard street, have received the contract to furnish the art glass windows for the First Methodist Episcopal Church at Palo Alto. W. H. Weeks architect, and Saint Stanislaus Catholic Church at Modesto, John J. Foley architect.

N. Clark & Son, 116 Natoma street, have closed the contract to furnish the Matt glazed terra cotta for the new Pittock Block at Portland, Oregon, Doyle & Patterson architects. The extent of this contract approximately is 25 car loads.

The architectural firm of Miller & de Colmesnil has been dissolved and in the future each of the former partners will handle their personal business separately. Mr. Miller and Mr. de Colmesnil will continue to occupy the same offices in the Lick Building.

J. A. Drummond, 725 Chronicle Building, Pacific Coast representative for the N. & G. Taylor Co., Philadelphia, Pa., is on an extended eastern trip. While away Mr. Drummond will call at the home office and will also visit their recently enlarged plant at Cumberland, Md.

The Interior Metal Manufacturing Company of Jamestown, N. Y., have opened offices at 205 Examiner Building, San Francisco, with C. Edward Ross in charge. This firm manufactures Hollow fireproof steel doors, windows and trim bronze entrance doors and bank fixtures.

D. G. Craig, coast sales manager for the Beaver Company's manufactures of Beaver Board, Buffalo, N. Y., was a recent visitor with their local representatives, Lilley & Thurston Co. Mr. Craig reports that his company have purchased ground at Edmonds, Wash., and are making arrangements for the erection of a factory in the near future.

Gould & Champney, formerly associated but now conducting separate offices in the practice of architecture, Seattle, have won their long drawnout suit against R. C. McCormick for services rendered on the New Richmond Hotel, Seattle. The Supreme Court affirmed the decision of the lower court awarding the architects \$7,239. The courts find that the architects were dismissed without due cause.

♦ ♦ ♦  
CALIFORNIA.

Apartment House—San Francisco. Architects Dunn & Kearns, Monadnock Building, have prepared plans for a three-story and basement frame apartment house for M. Byrne. The building will be erected on Webster street, near Pacific, and will cost \$40,000.

Apartment House—San Francisco. Architects Falch & Knoll, Hearst Building, have prepared plans for a three-story frame apartment building to be erected on Page street, near Fillmore, for William Hencke, to cost \$15,000.

Apartment House—Los Angeles. Architects M. S. Tager & Co., Trust and Savings Building, have prepared plans for a four-story brick and steel apartment house building for C. C. Hooper. The building will be 52x150 feet and will have 110 rooms arranged in two and three room suites.

Apartment House—Los Angeles. Architect L. L. Jones, I. W. Hellman Building, has prepared plans for a three-story brick apartment house to cost \$30,000 for J. P. Partch.

Bank Building—Riverbank. Architect C. H. Russell, Humboldt Bank Building, San Francisco, has prepared plans for a two-story brick and steel bank building to cost \$40,000 for the Riverbank Land Company.

Exhibit Building—San Francisco. Architects Reghetti & Headman, Phelan Building, have been commissioned to prepare plans for a large building which will be erected on the Exhibition Section of the Panama-Pacific International Exhibition for the Swiss Society. The building will cost about \$100,000.

Bungalow—Berkeley. Architect John Hudson Thomas, First National Bank Building, has prepared plans for a modern one and one-half-story bungalow for O. I. Pummels.

Hotel Building—San Francisco. Architect C. A. Meussdorffer, Humboldt Bank Building, has prepared plans for a five-story and basement reinforced concrete building which is to be erected for Col. Fallon on the south side of Market street, near Brady.

Packing House—San Francisco. Architect Smith O'Brien, Humboldt Bank Building, has completed working drawings for a three-story and basement reinforced concrete building, to be erected for the Workman Packing Company on Harrison street, near Fourth, to cost \$50,000.

Residence—Architect O'Brien & Werner, Foxcroft Building, are preparing plans for a two-story and basement frame and brick residence to be erected for Abbot A. Hanks on Pacific avenue, near Laurel. When completed the house will cost about \$12,000.

Store and Hotel Building—San Francisco. Architect Arthur T. Ehrenpfort, 251 Kearny street, has prepared plans for a four-story and basement store and hotel building which is to be erected at the corner of Olive and Larkin streets.

Theatre Building—Kansas City, Mo. Architect G. Albert Lansberg, 709 Mission street, San Francisco, has just completed working drawings for a Class A theatre building, which will be erected for the Orpheum Circuit at a cost of \$350,000.

Residence—San Francisco. Architect W. H. Radcliff, Jr., First National Bank Building, Berkeley, has prepared plans for the construction of a two-story and basement frame residence to be erected in St. Francis Wood for A. S. Cunningham, to cost \$5,000.

Hotel Addition—San Francisco. Architect C. H. Skidmore, Foxcroft Building, has prepared plans for a four-story and basement reinforced concrete addition to the Niagara Hotel, situated on the south side of Howard street. Estimated cost of addition is \$20,000.

Apartment House—San Francisco. Architect Frank S. Holland, 100 Haight street, has prepared plans for a three-story and basement frame apartment house to be erected on Fillmore street, near Hayes. Cost \$17,000.

Hotel Building—San Francisco. Architect Kenneth MacDonald, Holbrook Building, is preparing plans for an eight-story and basement brick and steel hotel building, which will be erected for Reuben Lloyd on Sutter street, west of Taylor. Building will cost, when completed, \$50,000.

Apartment House—San Francisco. Architects Ross & Burgren, 310 California street, have prepared plans for a four-story and basement reinforced concrete apartment house, which is to be erected on Post street, near Larkin, for S. Zusman, to cost \$30,000.

Apartment House—San Francisco. Architect G. Scholz, Phelan Building, has prepared plans for a three-story and basement frame apartment house to be erected on Fulton street, near Gough, for F. Mertens, to cost \$10,000.

Apartment House—San Francisco. Architects McDougall Bros., Russ Building, have prepared plans for a three-story and basement frame apartment house to be erected on California street, near Broadway, for W. F. Roberts. When completed the building will cost \$20,000.

Hotel and Store Building—San Francisco. Architects Faber & Bearwald, Merchants' National Bank Building, have completed plans for a five-story and basement steel and reinforced concrete hotel and store building to be erected for Mr. Vayssie, the building to cost about \$80,000.

Hotel—San Francisco. Architects MacDonald & MacDonald, Holbrook Building, has been commissioned to prepare plans for a large addition to the Union Square Hotel on Post and Stockton streets, construction will be of reinforced concrete and cost about \$150,000.

Theatre and Stores—San Francisco. Architects Rousseau & Rousseau, Monadnock Building, have completed plans for a Class A theatre and store building to be erected on Broadway, west of Grant avenue, for Nellie Harris, to cost \$40,000.

Passenger Station—The Architectural Department of the Southern Pacific Company, Flood Building, are preparing plans for a new passenger station at Richmond, Cal., to cost about \$30,000.

Office Building—Oakland. Architect C. N. Burrell, Albany Building, Oakland, has finished plans for a nine-story Class A building to be erected by Morris & Muller at the corner of Fourteenth and Jefferson streets. Estimated cost of building \$150,000.

Residence—Stockton. Architect Ralph P. Morrell, Odd Fellows' Building, has prepared plans for a two-story and basement frame residence for Miss D. MacInnes, to cost \$4,000.

Apartment House—Oakland. Architect Chas. W. McCall, Central Bank Building, has completed plans for a six-story apartment house to be erected on the corner of Twelfth and Grove streets.

Store and Offices—Oakland. Architect C. W. Dickey, Central Bank Building, has prepared plans for the remodelling of the store building on the corner of Thirteenth and Clay streets. The remodelling will cost \$28,000.

Residence—Piedmont. Architect A. D. Nicholsen, Whittell Building, San Francisco, has prepared plans for a modern residence to cost \$6,500 for W. D. Tillinghast.

Theatre Building—Los Angeles. Architects Austin & Pannell, Wright & Callander Building, are preparing plans for a one-story and basement brick and steel building to cost \$35,000 for H. L. McAllister and J. M. Dobbins.

Theatre Building—Stockton. Architect Walter King, Elks' Building, Stockton, has prepared plans for the alterations and brick construction for a theatre building for C. A. Slack.

Residence—Los Angeles. Architects Hunt & Burns, 701 Laughlin Building, have prepared plans for a two-story and basement frame residence and garage to be erected at Glendale for H. B. Woodill.

Residence—Los Angeles. Architect Frederick Heinlein, 517 Lissner Building, is preparing plans for a two and three-story reinforced concrete residence to be erected at Oak Knoll for Baroness Rosa Von Zimmerman, 223 South Rampart Boulevard.

Residence—Los Angeles. Architect Charles E. Shattuck, 318 Mason Building, has prepared plans for a two-story brick and frame residence to be erected on West Adam street for Miss Ada A. Dryden, to cost about \$20,000.

Residence—Los Angeles. Architects Eager & Eager, Story Building, have prepared plans for a two-story brick and frame residence to be erected on the west side of Andrews Boulevard, near Sixth street, for J. G. Warren to cost about \$25,000.

Bank and Office Building—Pasadena. Architects Parkinson & Bergstrom, 1035 Security Building, Los Angeles, are completing plans for a Class A reinforced concrete office building to be erected on the corner of Colorado street and Marengo avenue, Pasadena, for the Citizens' Savings Bank, to cost about \$100,000.

School Building—Tustin. Architect Frederick H. Eley, Register Building, Los Angeles, is preparing plans for a two-story and brick basement Grammar school building, to be erected at Tustin. Cost estimated at \$45,000.

Store and Office Building—Santa Ana. Architects Metcalf & Davies, 43 American avenue, Long Beach, have prepared plans for a four-story and basement brick store and office building to be erected on the corner of Fourth and Sycamore streets for W. H. Spurgeon.

Church—Fresno. Architects Starbuck & Park, Forsyth Building, have been commissioned by the Directors of the First Mennonite Church of Reedley to prepare plans for a new church building to cost \$5,000.

Remodelling—Fresno. Architect A. W. Cornelius, San Francisco, has prepared plans for the remodelling of the Turner & Danken Building on Mariposa street, a new front of pressed brick will be built with plate glass, marble and stone fronts. Cost \$15,000.

Steel Work—San Francisco. Architects Willis Polk & Co., Merchants' Exchange Building, will have plans and specifications completed for the steel and foundation work on the new twenty-five-story Hobart Building soon. This big office structure will be erected on the north side of Market street, opposite Second.

◆ ◆ ◆

#### OREGON.

Warehouse—Portland. Architects Emil Schacht & Son, Commonwealth Building, have prepared plans for the D. P. Thompson Estate for a two-story and basement warehouse, 100x200 feet, to cost \$60,000.

School Building—Myrtle Point. Architect Newton C. Gaunt, Portland, has finished plans for a \$12,000 frame school building.

Apartment House—Springfield. Local business people are considering the erection of a large apartment house in the very near future. Proposed construction will cover ground space of 100x100 feet.

Factory Addition—Portland. Architects Emil Schacht & Son are preparing plans for a brick addition 35x40 feet to the Portland Cordage Company's plant.

Armory—Roseburg. State Architect W. C. Knighton has plans prepared for the new Armory building to be constructed of reinforced concrete. The building will be two stories and cost \$60,000.

Residence—Portland. Architect Earl A. Roberts, Selling Building, has prepared plans for a two-story frame residence for J. Bullivant to cost \$4,500.

Boiler House—Portland. Architects Lawrence & Holford have prepared plans for a boiler house for the Bell Court apartments to cost \$4,000.

Church Building—Portland. Architects R. L. Bailey Co., Abington Building, have prepared plans for a stucco church building to be erected in Rose City Park. The same architects have plans prepared for a bank building at Sheridan, Oregon.

Bungalows—Eugene. Architect J. R. Ford, Eugene, has prepared plans for eight bungalows for the Booth Kelly Lumber Company to be erected at Wendling, Oregon.

Fair Building—State Architect W. C. Knighton, Salem, has prepared plans for the Oregon Fair Building to be erected at San Francisco.

Library—Hood River. Architects Sutton & Whitney, Lewis Building, Portland, have prepared plans for a \$15,000 Library building.

Church Building—Portland. The Rev. Benj. Young of the First Methodist Church has returned from his vacation and soon action will be taken relative to the new edifice for which plans are

being prepared by Tourtellotte & Hummel, Rothchild Building. The structure will cost \$150,000.

Store and Warehouse Building—Salem. Architect Fred A. Legg, Ainsworth Building, has been commissioned to prepare plans for a two-story building to be erected for R. P. Boyse, Salem, to cost \$12,000.

Residences—Architect Ernest Kroner, Worcester Building, Portland, has been commissioned to prepare plans for two hillside residences for R. B. Margruder. Buildings will cost about \$12,000.

Apartment House—Eugene. O. J. Hull has taken out a permit for the erection of a two-story apartment house at the corner of Alder street and Eleventh avenue. The building will cost \$10,000.

School Building—Cottage Grove. Architects Tourtellotte & Hummel, Rothchild Building, Portland, have awarded the contract for the \$40,000 school building to be erected at Cottage Grove to W. O. Heckart, Eugene, Oregon.

Hotel Building—Portland. The Beaver State Hotel Corporation will have plans prepared and erect a ten-story hotel building to cost \$250,000. The building will be erected on the corner of Eleventh and Morrison streets.

Elks' Building—Medford. Architect F. G. Clark has prepared plans for a two-story frame structure for the local Elks.

School Building—Yamhill. Architect Jacobberger & Smith, Board of Trade Building, Portland, have prepared plans for a school building for the Episcopal Diocese. Cost \$15,000.

Church Building—La Grande. Architects Tourtellotte & Hummel, Rothchild Building, Portland, have prepared plans for a brick and cut stone church building, 35x90 feet, for the Catholic church at La Grande.

Residences—Architects Lawrence & Holford, Chamber of Commerce Building, Portland, have prepared plans for two large residences, the larger of the two to be erected at a cost of \$35,000 and the smaller one to cost \$15,000.

◆ ◆ ◆

#### WASHINGTON.

Cold Storage Plant—Seattle. Sketches are now being prepared in the office of Paul P. Whitham, Chief Engineer for the Port of Seattle Commission, Central Building, for the construction of a million dollar cold storage warehouse for the East Waterway Terminal Project.

Apartment House—Seattle. Architect G. J. Nichols, 1932 Second avenue, has been commissioned to prepare plans for an eleven-story fireproof apartment house for E. G. McKelvey. The building will be 120x210 feet and cost about \$60,000.

Warehouse—Seattle. Architects Saunders & Lawton, Alaska Building, are preparing plans for a seven-story concrete and fireproof warehouse for A. Hambach & Co., to cost about \$125,000.

Hall Building—Seattle. Architects Canton & Haynes, Melhorn Building, have prepared plans for the construction of a two-story, 80x97 feet, brick veneer hall building for the Dancing Academy, at a cost of about \$20,000.

Residence—Seattle. Architect U. Grant Fay, Central Building, has prepared plans for a three-story residence for N. B. Beck, 4740 Twenty-first avenue, northeast, to cost \$18,000.

Storage Warehouse—Seattle. Capt. O. A. Powell, Central Building, has prepared plans for the First Unit of a five-story reinforced concrete and terra cotta cold storage warehouse on the Central Waterfront improvement for the Port of Seattle Commission. This building will be 100x200 feet and cost about \$350,000.

Theatre Building—Seattle. Architect W. A. Pentecost has prepared plans for a two-story, 60x111 feet, concrete and brick moving picture theatre building for F. N. Hallet on the east side of Fourth avenue, between Pike and Union streets, to cost about \$50,000.

Store Building—Tacoma. Architects Bullard & Hill, Provident Building, have prepared plans for a three-story brick and steel building for F. W. Foulkes at C street, near Thirteenth, at a cost of about \$15,000.

Residence—Seattle. Architects Cutter & Malmgren, Spokane, have let the contract for the \$100,000 residence of C. D. Stimsons at the County Club in the Highlands.

School Building—Seattle. Architect Edgar Blair, 901 Seventh avenue, has prepared plans for two four-room additions to Warren Avenue school building that will cost about \$125,000.

Residence—Seattle. Architects Haynes & Cantin, Melhorn Building, are preparing plans for a \$4,000 residence which will be erected at Lake Forest Park for Dr. J. Alexander.

◆ ◆ ◆

#### BRITISH COLUMBIA.

Vancouver—Plans have been completed by Architect F. M. Rattebury of Victoria, for three of the large hotel buildings which the Grand Trunk Pacific will erect in the West.

Theatre Building—Victoria. Architect Jesse M. Warren, Central Building, has prepared plans for a modern theatre building for local capitalists to cost about \$125,000.

Apartment House—Victoria. Architect C. E. Watkins has prepared plans for a \$45,000 apartment house to be erected at Cook and Collision streets.

School Building—Vancouver. The Parish of the Holy Rosary will soon decide whether to go ahead with the \$100,000 school building, plans prepared by Architects Tegan & Vezina.

Hotel Building—Victoria. Architects Coates & Fleet have prepared plans for a three-story hotel and store building to be erected at Duncan for E. Stock.

Museum—Victoria. Architect F. M. Rattenbury has prepared plans for the new Government Museum Building. The building will be a fireproof construction with stone exterior, 90x260 feet.

Bank—Vancouver. Architect E. S. Mitton, 413 Granville street, has prepared plans for the Japan Trust Company for the erection of the two-story reinforced concrete and brick building on Powell street.

Armory—Victoria. Architect W. Ridgeway Wilson has prepared plans for the Victoria Armory building that will be two stories and basement, 100x200 feet, to cost about \$250,000.

◆ ◆ ◆

**SHEET COPPER**  
Always the most durable and satisfactory sheet metal for high class construction.  
The largest stock on the Pacific Coast carried by the  
**PACIFIC METAL WORKS**  
153-159 FIRST ST., SAN FRANCISCO  
BRANCH: LOS ANGELES, CAL.  
DEALERS IN TIN, LEAD, ZINC, ANTIMONY, SOLDERING COPPERS, ETC.  
MANUFACTURERS OF SOLDER, BABBITT AND TYPE METALS  
LEAD BASH WEIGHTS, ETC., ETC.



## MOHRLITE

### THE PERFECT LIGHT

For HOMES, OFFICES, PUBLIC BUILDINGS and LIBRARIES

SELLING AGENTS FOR IDAHO, WASHINGTON AND OREGON

**MOHRLITE NORTHWEST CO.**  
128 PARK STREET, PORTLAND, ORE.

FOR CALIFORNIA, NEVADA, UTAH, COLORADO,  
TEXAS, NEW MEXICO AND ARIZONA

**MOHRLITE CALIFORNIA CO.**  
663 MISSION ST., SAN FRANCISCO, CAL.

## Northwest Steel Company

TELEPHONES: MAIN 4016; A-5319

Steel Beams, Channels, Angles, Tees, Bars, Universal  
Mill Plates, Tank and Flange Plates,  
Black and Galvanized Sheets

### Fabricators of Structural Steel

Office, Works and Warehouse:

Foot of North Sixteenth St., Portland, Oregon

## VAN WATERS-COOK MFG. CO.

Manufacturers of the

## HESTER SYSTEM

OF STORE FRONT CONSTRUCTION

Office and Factory

EAST ASH, CORNER SIXTH STREET

PORTLAND, OREGON

Phone East 1581

## Tenino Cut Stone

DESIGNS OF EVERY DESCRIPTION

Fireplaces

Sawed Slabs

Rubble

"GOOD WORKMANSHIP—PROMPT DELIVERY"  
Our Slogan



Women of Woodcraft Building, Portland, Ore.

ALL TENINO STONE

E. W. Hendricks, Architect.

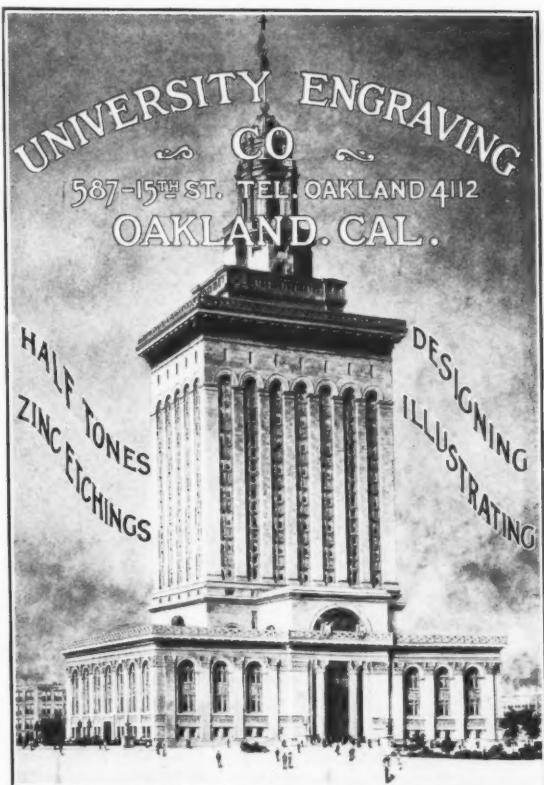
There is sure to be positive dissatisfaction, to say nothing of greater cost, in the use of a foreign stone the beauty of which is soon marred by disfiguring stains.

**TENINO STONE** is a native product with all the qualities necessary to a good building stone. It holds its color better than any foreign stone and, after a few years wear, it can be cleaned down and made fresh and new by the use of our approved cleaning solution at a trifling cost. Its liberal use in Schools, Churches, Banks, Court Houses, Federal Buildings, Lodges and Residences has proven its worth.

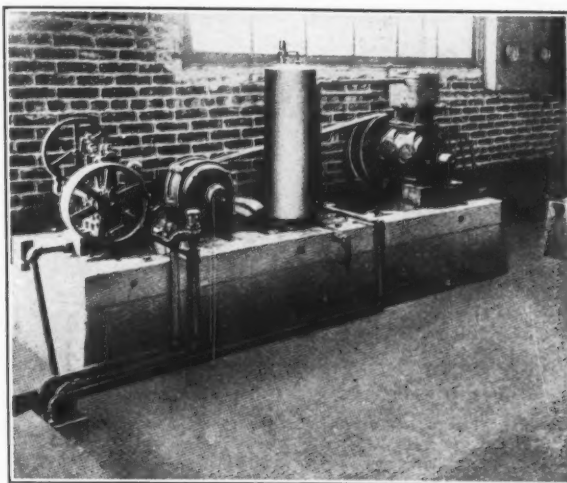
Write for catalogue and estimate.

**TENINO STONE COMPANY, Inc.**  
Tenino, Wash.

Quarry, Cutting Plant and General Office, Tenino, Phone 101  
Portland Office, Main 1406 Seattle Office, East 1529  
Vancouver, B. C., Office, Seymour 4631



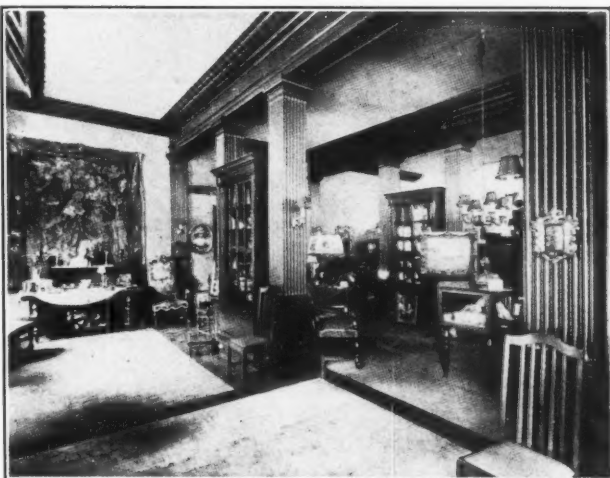
Specialists in  
**Oil Burning Equipment**



**ABBOTT FORRESTER COMPANY**

332 Mohawk Building, Portland, Oregon

Telephone Marshall 2261



**UNANDER & JAKWAY**

Successors to MOORE & COMPANY

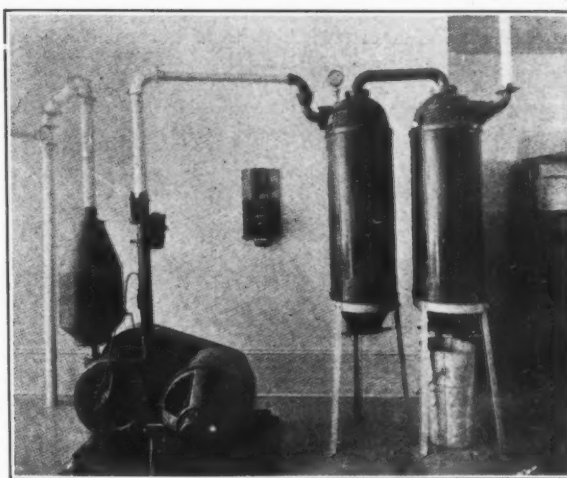
**Alder at Eleventh Street**

**PORTLAND, OREGON**

Interior Decorators and Dealers in Draperies, Wall Hangings, Upholstery Fabrics, Floor Coverings, Furniture, Sheffield Plate, Paintings, Prints, Antiques, Plastic Reproductions, China, Crystal.

Sole Agents for Rookwood, Teco, Buskin and Royal Copenhagen Potteries

Decorative Treatments, Sketches and Estimates Submitted  
 CORRESPONDENCE SOLICITED



Heavy Duty Rotary Type Plant

**"RICHMOND"**

Stands for efficiency in Vacuum Cleaning "STEAM ASPIRATOR" "ROTARY" and "PISTON" types—the only THREE successful machines that have stood the test of TIME.

Manufactured by the Richmond Radiator Co., New York and Chicago, in all sizes from the small residence plants to the largest system in the world—Sixty Sweeper Capacity.

**CAMERON-SCHROTH CO.**

SELLING AGENTS

JNO. H. NIEDERMARK

GROVER McHUGH

603 Board of Trade  
 Portland, Ore.

508 New York Block  
 Seattle, Wash.

224 So. Howard St.  
 Spokane, Wash.



## Congress Hotel

SIXTH AND MAIN STREETS  
PORTLAND, OREGON

D. L. WILLIAMS, ARCHITECT

Faced With  
PLASTIC WHITE BRICK



Furnished by  
**Pacific Face Brick Co.**  
Portland, Oregon.

## THE ONLY GRAND PRIZE

At the ALASKA-YUKON EXPOSITION was  
Awarded to the Tested, Time-Tried and Reliable

# WICKES REFRIGERATORS

MOST ELEGANT REFRIGERATORS EVER PRODUCED

OAK AND TILE EXTERIOR  
FOOD COMPARTMENT LINED WITH  
OPAL GLASS  
"BETTER THAN MARBLE"  
ECONOMY IN ICE  
PERFECT CIRCULATION  
THE GREAT  
SANITARY REFRIGERATOR

Wickes Refrigerators compare favorably in every  
point specified in article which appeared in the  
Pacific Coast Architect, November, 1911.



STANDARD SIZES ALWAYS IN STOCK  
FOR IMMEDIATE DELIVERY  
OTHER SIZES MADE TO ORDER

In Use in many of the Best Apartment  
Houses, Clubs, Hotels, Restaurants,  
Public Institutions, Hospitals and  
Homes in the United States.

Call, Phone or Write for High Art Catalog

FROM MANUFACTURER TO USER, THEREBY SAVING MIDDLEMAN'S PROFIT

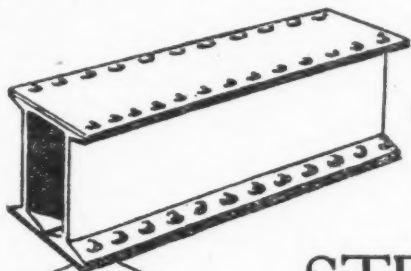
WICKES REFRIGERATORS ARE GUARANTEED BY

## THE BRUNSWICK - BALKE - COLLENDER CO.

PORTLAND, SEATTLE, SPOKANE, SAN FRANCISCO AND LOS ANGELES BRANCHES



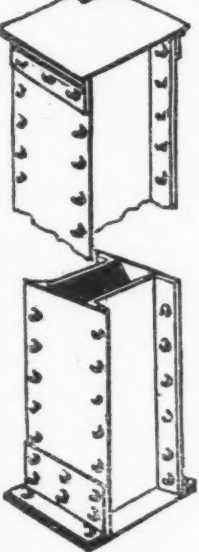




**Immediate  
Delivery**

In Stock in Yard

Complete Line  
of Beams,  
Channels,  
Angles, Plates



## STEEL Construction and Castings

All Architectural Iron

*Steel Post Caps  
Sidewalk Doors*

**PACIFIC IRON WORKS**

East End of Burnside  
Street Bridge

Portland, Oregon

## Mr. Architect and Engineer

### WOULD YOU BE ABLE

To design an absolutely fireproof building if called upon today, not only efficiently, but by the most economic system?

If a client walked into your office at 9 o'clock this morning and wanted immediate information on the best construction possible, CAN YOU TELL HIM "RIGHT OFF THE REEL?"

Practically every fireproof building in Portland today is designed KAHN SYSTEM.

If you don't realize the many economic and efficient features of the KAHN SYSTEM, write us today and we will send you descriptive booklet containing valuable engineering tables. No architect's library is complete without them.

**TRUSSED CONCRETE STEEL CO.**

Dept. K.

1106 WILCOX BUILDING

PORTLAND, OREGON

## Our Bureau of Interior

### Decorations

Is for the express purpose of assisting you in the selection of furnishings and decorations for your home.

This means—

To obtain the right color effect in wall coverings, draperies, rugs and woodwork.

To advise you in the purchasing and arranging of your furniture.

To make the interior of your home attractive and pleasing at the same expense as otherwise.

Write, or still better, call on us and our Mr. Drew will advise you to the best of his ability.

Bureau of Interior Decorations, Fifth Floor

*Lipman Wolfe & Co.*

PORTLAND, OREGON

## Money to Loan

ON CITY *and*  
COUNTRY  
PROPERTIES

BY

**G. GRAVEM**

725 Chronicle Building

San Francisco, Cal.

Phone Douglas 3424

2400

# MT. DIABLO CEMENT

San Juan Lime  
FOR PLASTERING

Imperial Lime  
FOR BRICK WORK

**HENRY COWELL LIME & CEMENT CO.**  
507-8 Railway Exchange Building  
PORTLAND, OREGON  
Phones: Marshall 2134; A-3220

14.693C

# THE TUEC

Ask Us Why  
Has Captured  
the Country

THERE ARE REASONS

**Tuer Company of Oregon**  
408 Lumbermens Building PORTLAND, OREGON  
Marshall 1916  
Oregon Distributors for the United Electric Co. of  
Canton, Ohio.

# Compo Ornaments



WE DO  
Modelling and Carving

WE MANUFACTURE  
Staff, Composition, Cement Casts  
Plastic Relief

**J. D. Tresham Mfg. Co.**  
E. TENTH and LINCOLN STS. PORTLAND, ORE.  
Telephone East 538

West Side Office 315 Couch Building  
Phone Marshall 2577



# BUILDING MATERIALS CONTRACTOR'S SUPPLIES

In building and construction work, our  
catalogs and other information will in-  
terest you. We have a line of recog-  
nized standards and specialties worthy  
of investigation.

**F. T. CROWE & CO.**  
SEATTLE, PORTLAND, TACOMA, SPOKANE

